Understanding Social Dynamics: 20 Years of the Swiss Household Panel / Comprendre les dynamiques sociales: 20 ans de Panel suisse de ménages / Soziale Dynamiken verstehen: 20 Jahre Schweizer Haushalt-Panel

Edited by Robin Tillmann, Monica Budowski, Dean R. Lillard, and Annette Scherpenzeel

Book Reviews

Seismo

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La politique sociale est d'une importance capitale pour la prospérité de la Suisse. Elle façonne les parcours de vie et influence significativement la qualité de vie de la population. La nouvelle édition du Dictionnaire de politique sociale suisse, entièrement revue, apporte un éclairage sur la mise en œuvre, les objectifs et les effets de la politique sociale en Suisse, ainsi que son contexte historique, socioéconomique et juridique. Réunissant plus de 250 articles, le dictionnaire porte un regard analytique et critique sur les diverses composantes de la politique sociale, mettant en lumière les spécificités de la politique sociale suisse, ainsi que les besoins d'action et les défis actuels et futurs. Cette vue d'ensemble inédite des politiques sociales suisses fortement marquées par le fédéralisme est dressée par des expert·e·s provenant de trois des quatre régions linguistiques du pays, actifs dans la recherche, l'administration publique et la société civile. Rédigé dans une langue accessible et basé sur des constats étayés par la recherche et la pratique, le dictionnaire fournit tant aux spécialistes qu'au grand public des connaissances de base en matière de politique sociale.

Jean-Michel Bonvin,
Valérie Hugentobler,
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Die Sozialpolitik trägt massgeblich zur Wohlfahrt der Schweiz bei. Sie prägt den gesamten Lebenslauf und beeinflusst wesentlich die Lebensqualität der Bevölkerung. Ihre Ausgestaltung, Ziele und Auswirkungen hält das neuaufgelegte und völlig überarbeitete Wörterbuch der Schweizer Sozialpolitik ebenso fest wie historische, wirtschaftliche, soziale und rechtliche Bezüge. Weit über 250 ausgewählte Beiträge nehmen verschiedenste, sozialpolitische Massnahmen und Zusammenhänge kritisch in den Blick und weisen auf Schweizer Besonderheiten, Handlungsbedürfnisse sowie aktuelle und zukünftige Herausforderungen für Politik und Gesellschaft hin. Auch liegt erstmals eine Gesamtschau der föderal geprägten Schweizer Sozialpolitik vor, die von Experten und Expertinnen aus Wissenschaft, Verwaltung und Zivilgesellschaft von drei der vier Sprachregionen der Schweiz verfasst wurden. In einer allgemein gehaltenen Sprache macht das neue Wörterbuch damit grundlegendes, forschungs- und praxisbasiertes Wissen zur Sozialpolitik über Sprachgrenzen hinweg für Laien und Fachpersonen zugänglich.

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Introduction to the special issue "Understanding social dynamics: 20 years of the swiss household panel"

Comprendre les dynamiques sociales : 20 ans du Panel suisse de ménages

Soziale Dynamiken verstehen: 20 Jahre Schweizer Haushalt-Panel

Robin Tillmann*, Monica Budowski**, Dean R. Lillard***, and Annette Scherpenzeel****

1   Introduction

Twenty years ago, with the launch of the first Swiss Household Panel (SHP) sample, social science in Switzerland embarked on a great adventure. After having evaluated that the social sciences's development was characterized by "a number of structural deficits", Swiss researchers and institutions had to change their mindset – from the era of the lonely researcher to interdisciplinary, cooperative research Switzerland and realise that, for the social sciences, data collection, databases and data documentation centers are the functional equivalent to the laboratories and equipment the natural sciences use. The year was 1999. In 1999, in Switzerland, social science longitudinal surveys were particularly rare. It took the initiative and perseverance of visionaries to make the SHP a reality. Twenty years later, more than 2,000 researchers and students have used and continue to use SHP data. To date, those scholars have published almost 800 scientific publications; the SHP has gained an international reputation and

> *"… is part of a growing worldwide community of excellent researchers who analyze household panel data. These analyses make a difference in the scientific community. Many of these analyses also make a difference in local and national societies. In the future, the results of these studies will also make a difference to global society. As a member, if not a hub, of the global network of panel studies, SHP is poised to contribute significantly to science and to society."* (Wagner 2018, viii)

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2   Longitudinal studies

Notwithstanding challenges such as attrition, panel studies have unique analytic advantages (see for example Duncan and Kalton 1987; Lynn 2009 or Rose 1995). According to Trivellato (1999: 340–342), panel data are essential to measure and analyse processes of mobility and inertia. More precisely, with household panel data, researchers can: (a) measure gross change; (b) distinguish between permanent and transitory characteristics of a given phenomenon; (c) study intergenerational patterns of phenomena such as poverty, income dynamics, health conditions and practices or political positioning, and (d) analyse individual development or aging as a process over time. Moreover, panel data make it possible to establish (robust) causal relationships (see for example Lieberson 1985: chapter 9). Thus, panel data are not only important for academic research, but also for monitoring and evaluating policies (see for example Piesse et al., 2009). The journal *Science* considers longitudinal surveys as a major area of innovation in the social sciences (Butz and Torrey 2006) and even those scholars who predict a coming crisis of empirical sociology (Savage and Burrows 2007) affirm the continuing importance of longitudinal studies.

In Switzerland, social science institutes administer most (currently running) longitudinal surveys, focusing on representative surveys at the national level. The Swiss Federal Statistical Office administers two longitudinal surveys: the Swiss Labour Force Survey that is mainly dedicated to the labour market, and the Statistics on Income and Living Conditions study (SILC) collecting data on income and living conditions. Both are rotating panels with a strong commitment to population parameter estimation. Moreover, the analytical potential of the Swiss Labour Force Survey's longitudinal component is limited because it follows respondents for only one year. The Swiss landscape of longitudinal studies includes two other types of prospective studies: four cohort panels and one household panel. The former includes the Transitions from Education to Employment survey that follows a cohort of young school leavers (from school to employment); the Survey of Health Ageing and Retirement in Europe survey that observes non-institutionalized persons aged 50 and older and their spouses/partners (independent of age); the Swiss Longitudinal Survey of Children and Youth that investigates the social conditions, experiences, and psychosocial development of children and youth; and the LIVES-FORS cohort survey, which is dedicated to a diversified sample of young adults who grew up in Switzerland. The SHP is the only (indefinite life) household panel in Switzerland. Longitudinal household data, such as the SHP, data allow the study of the life course integrating different life domains, and examining the interdependency of life courses within households.

3   History, design and content of the Swiss Household Panel

3.1   Origin and aims

The Swiss Priority Program "Switzerland Towards the Future" implemented the SHP as one of its key structural measures in 1999 (Budowski et al. 2001). The experiences of existing European panel surveys informed the SHP's design, notably the German Socio-Economic Panel (SOEP) (Schupp and Wagner 2007) and the British Household Panel Study (BHPS), which is now integrated into Understanding Society, the UK Household Longitudinal Survey (UKHLS) (Buck and McFall 2011).

Initially, the SHP was a project jointly run by the Swiss National Science Foundation, the Swiss Federal Statistical Office, and the University of Neuchâtel. Between 2004 and 2007, the SHP developed a joint venture project "Living in Switzerland-2020" aimed at conducting a pilot study of the Statistics of Income and Living Conditions (CH-SILC) 2004-2005 survey in collaboration with the Swiss Federal Statistical Office. Since 2008, still mainly funded by the Swiss National Science Foundation, the SHP has been integrated into the Swiss Centre of Expertise in the Social Sciences (FORS) hosted by the University of Lausanne.

Two main aims guide the SHP (Farago 1996; Joye and Scherpenzeel, 1997). The first is to collect longitudinal data to complement existing cross-sectional data the Swiss Federal Statistical Office collects. In pursuit of this goal, SHP aims to create a solid database for social reporting on stability and changes in living arrangements and wellbeing in Switzerland. Indeed, the SHP is a unique longitudinal study, because it offers researchers data they can use to comprehensively analyse mid- to long-term micro-social change; other surveys in Switzerland collect data on a smaller range of topics, follow a restricted subgroup, or allow only the study of short-term transitions (see above). SHP also aims to promote opportunities for quantitative social science research by making high-quality data available to Swiss social scientists and to the international social science research community. Together with research partners in eight other countries, the SHP has, since 2008, made a subset of its data internationally comparable and distributes it as part of the Cross-National Equivalent Files (CNEF).

Household panel data have many other scientific benefits. Data collected from household panels not only allow for the estimation of gross transitions but also provide an understanding of those transitions, including the circumstances (family events, a change in the activity status, health events, etc.) causing movements in and out of a given state (for example, transitions into and out of poverty). Thus, the SHP is an important tool for fine-tuning our conceptions and analyses of social dynamics and changes across time.

The SHP features a broad range of fields and a variety of topics. These features make the SHP a valuable source of information for studies in different disciplines and allow for cross-domain analyses. To keep up with changes in the field, the SHP

occasionally modifies the questionnaire and adds newly constructed variables to the dataset. A major criterion for any change to the questionnaire is that it should not compromise the comparability of the data over time. A second strong feature of the SHP is that it interviews all members of the households in the panel. This design allows for intra-household and intergenerational studies, such as the study of mutual influence of household members' attitudes and behaviours over time.

3.2   Design

The SHP's reference population includes all private households whose members represent the non-institutional resident population in Switzerland. Individuals living in old peoples' homes, institutions, or prisons, are not part of the reference population.

At present, the SHP comprises three samples: the SHP_I (7,799 individuals in 5,074 households first interviewed in 1999), the SHP_II (3,654 individuals in 2,538 households first interviewed in 2004) and the SHP_III (6,090 individuals in 3,989 households first interviewed in 2013). The household response rate in the first wave of the SHP_I, SHP_II, and SHP_III samples was 64, 65, and 60 percent respectively. Among participating households, the individual-level response rate in the first year of each sample was 85, 76, and 81 percent respectively. SHP will add a fourth sample, the SHP_IV, in 2020.

All three random samples are stratified by the seven major statistical regions of Switzerland. Within each major geographic region, each household (SHP_I and SHP_II) or individual (SHP_III) had the same inclusion probability, independent of the size of the household.

The SHP administers three questionnaires for specific purposes. The household grid questionnaire assesses household composition. The household questionnaire collects information common to all household members. The individual questionnaire collects information specific to each respondent. All household members aged 14 or older are eligible to answer the individual questionnaire. Each household has a reference person who completes the household grid and the household questionnaire. The household questionnaire also includes a questionnaire, answered by the household's reference person as proxy, that collects information on household members younger than 14 years, household members who are absent for a long period, or who are unable to respond due to illness or disability.

Based on a methodological experiment (Scherpenzeel and Eichenberger 2001), the main chosen mode of interviewing was computer-assisted telephone interviewing (CATI). Since 2010 (wave 12), CAPI and computer assisted web interview (CAWI) have been offered as alternative survey modes to those who initially refused to participate.

3.3   Survey content

The household and individual questionnaires cover a broad range of topics. The questionnaires collect both 'objective' data, such as financial resources, social position, and participation, and subjective data, such as satisfaction scores, values, and attitudes. The whole constitutes an operationalisation of different elements on the micro-social level: living conditions, life events, attitudes, perceptions, and lifestyles (Budowski, et al. 1998).

The questionnaire at the household level mainly covers the following areas:

1. composition of the household: basic information (collected in the grid questionnaire) about all the members of the household, such as their age, sex, relations, nationality, level of education, and occupational status;

2. accommodation: the type and size of the accommodation, home ownership or tenancy, cost of and/or the subsidies received for housing, satisfaction with the accommodation, and evaluation of the state of the accommodation;

3. standard of living: possession of various goods such as cars, televisions or computers, and participation in various activities, such as holidays, meals at restaurants, or dentist visits, and the reasons (financial or otherwise) households do not have these goods or carry out these activities;

4. the household's financial situation: financial difficulties, indebtedness (and the reasons for it), total household income, payments to other households, expenses (e.g. for childcare), satisfaction with income, an estimate of the minimum income the household considers necessary, and an evaluation of how the household's financial situation has evolved;

5. the household and the family: external help available to the household for housework, childcare, or care for other household members, the division of housework and childcare, and decision-making within the household.

The individual questionnaires cover the following main topics:

1. the household and the family: information on children living outside the household, time spent on housework, and satisfaction with private life and the share of housework;

2. health and quality of life: general illness and health problems, doctor and hospital visits, long-term handicaps, threats or attacks endured, self-perceived state of health, estimated evolution of the state of health, satisfaction with health and with life in general, feelings of safety, tobacco consumption, and physical activities;

3. social origin (asked at first interview only): information related to each respondent's parents, including profession, professional position, educational

> level, political positioning, nationality and any financial difficulties in the
> family of origin (at the reference age of 15);

4. education: the respondent's native language(s), level of education completed,
    education currently being pursued, and participation in on-the-job training;

5. employment: information on the respondent's profession, such as working
    conditions, number of hours worked, work schedule, atypical work, status
    in the labour market, previous jobs, job satisfaction, job insecurity, and
    personal qualifications;

6. income: total personal income, total professional income, social security
    pensions, social and private transfers, and other income, plus satisfaction
    with the financial situation and evaluation of changes in it;

7. participation, integration, and networks: frequency of social contacts, un-
    remunerated work outside the home, participation in associations, member-
    ship of and participation in groups, assessment of social capital by means of
    evaluation of potential practical help and emotional support (from various
    social network ties) and general trust in people;

8. politics and values: political participation, membership, party identification,
    political positioning, satisfaction with the political system, evaluation of
    issues and political values;

9. leisure and media: leisure activities, amount of leisure and holiday time, use
    of media, and satisfaction with leisure and free time.

10. psychological scales: (from 2009 onwards) dimensions of self-perception
    (such as self-mastery and self-esteem) and other aspects like the Big Five
    personality traits.

Since the second wave, the individual questionnaire has also included a life events
module assessing the occurrence of events such as the termination of relationships,
deaths of family or friends, and conflicts with relatives; and an occupational calendar
module assessing (on a monthly basis) the respondent's employment situation in
the twelve months prior to the interview.

In 2009 the SHP introduced a new system of modularization for the individual
questionnaire. The SHP now contains three different types of questions: *unique*
questions asked only once (usually in the first interview), *core* questions asked each
wave and *rotating core* questions asked regularly (but not each year). Table 1 shows
the different types of questions.

The rotating core questions are arranged in different modules, i. e. social net-
work, religion, social participation, political behaviour and values, leisure and culture,
and psychological scales. Table 2 shows the rotation calendar over the past decade.

Table 1   Questionnaire content

Topics	Unique	Core	Rotating core
Last job[a]	X		
Social origin	X		
Socio-demographics		X	
Life events		X	
Health		X	
Education		X	
Current job		X	
Occupational calendar		X	
Income		X	
Social network			X
Leisure			X
Social participation			X
Politics			X
Religion			X
Psychological scales	X		X

[a]) Last job refers to the last job held prior to entering the panel for those respondents who were not employed at the time of the first interview.

Table 2   Rotation calendar of the SHP modules from 2010 to 2020

Module	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Social network	X			X			X			X	
Religion			X			X			X		
Social participation		X			X			X			X
Political be-haviour and values		X			X			X			X
Leisure and culture	X			X			X			X	
Psychological scales			X			X			X		

The questionnaires used in the first wave of the SHP_III (in 2013) differed from those used in SHP_I and SHP_II. In the first wave of the SHP_III, retrospective individual biographical data were collected. In addition to the regular grid and the household questionnaire, respondents in the SHP_III sample completed a life calendar covering their entire life course starting from birth. The SHP_III life calendar is presented as a two-way grid on paper with the temporal dimension

(in years) for the rows and various life domains in the columns (see https://www.tandfonline.com/doi/full/10.1080/21582041.2017.1418528). Respondents were asked to report events for each domain in this grid. This questionnaire has been developed with the NCCR LIVES, a Swiss National Centre of Competence dedicated to life course research. Thus, the SHP_III has an original design, combining retrospective biographical data with prospective longitudinal data.

Retrospective data also exist on a subsample of the SHP_I respondents (n = 5,560). In 2001–2002, all SHP_I respondents were approached by mail with a self-completion questionnaire. This questionnaire collected information on education, work, and family history.

3.4   International comparison

The SHP was designed to allow cross-national comparisons with other household studies. In 2008, the SHP was included in the Cross-National Equivalent File (CNEF), which provides harmonized data from nine household-based panel studies (see http://cnef.ehe.osu.edu/). To date the CNEF comprises the German Socio-Economic Panel (SOEP), the UK "Understanding Society" (which includes the BHPS), the US Panel Study of Income Dynamics (PSID), the Canadian Survey of Labour and Income Dynamics (SLID), the Household Income and Labour Dynamics in Australia (HILDA), the Japan Household Panel Study (JHPS), the Korean Labor and Income Panel Study (KLIPS), the Russia Longitudinal Monitoring Survey (RLMS-HSE), and the SHP (Frick, Jenkins, Lillard, Lipps and Wooden 2007).

Panels like the SHP are in CNEF because they collect data on the same person over many years. The CNEF covers the following main topics: demographics, employment, income, and health. Because CNEF comprises longitudinal data, it affords researchers the same advantages noted above; the primary one being more powerful statistical methods to better control for otherwise unobserved person-specific heterogeneity in behaviour. But the creation of internationally comparable panel data confers an additional feature. With CNEF data, researchers can exploit policy variation across countries and over time to gain richer insights into how policies affect human behavior. Finally, researchers increasingly use CNEF to study, from a cross-national as well as a cross-disciplinary perspective, how socio-economic status is correlated and transmitted across multiple generations. The SHP is an integral CNEF member.

CNEF is a "bottom-up" standardization project. Expert social scientists standardize variables as they seek to answer specific research questions. This feature of the process involves researchers who are experts in particular topics and who, as they inform themselves of specific country institutions, bring topic-specific expertise to bear. Just as importantly, the CNEF continuously evolves as researchers refine and add to the set of harmonized variables.

In the context of cross-national comparative work, the SHP is a mother-lode of social science data. SHP is a rich resource not only because it contributes data to CNEF but also because the SHP collects data in various domains that are not yet in CNEF but that other panels also collect. For example, SHP and other panels collect data on political behaviour and values (for example, the left-right self-placement scale, interest in politics, participation in polls, and general trust in people), social participation (for example, participation in sport/leisure associations, unions, political parties or charitable organisations), leisure and culture (different items broadly comparable with those of the SOEP and the UKHLS), religion (with usual questions on religious affiliation and participation in religious services), and psychological scales (for example, the Morally Debatable Behaviour Scale, satisfaction scales, and sense of control). These data have not yet been included in CNEF. But researchers can use SHP to expand the envelope of social science knowledge. In addition, the SHP provides internationally comparable constructed variables for research in social stratification in particular (such as Treiman's prestige scale or the European Socio-Economic Classification [ESeC]).

4　　20 Years, and beyond

Following a 2018 book describing how the lives of the Swiss population have changed in terms of health, family circumstances, work, political participation, and migration over the last sixteen years (see https://www.springer.com/gb/book/9783319895567), the 10th International conference of Panel data users in Switzerland provided the opportunity to celebrate the 20 years of the SHP. Besides usual workshops, a plenary session (by Monica Budowski) entitled "20 years Swiss Household Panel: it has grown up!" looked back on the history of the SHP, and a brochure (https://forscenter.ch/wp-content/uploads/2019/08/brochureannipsm_web.pdf) demonstrated its richness and the usefulness of longitudinal data. Based on an overview of a selection of publications by Swiss and/or foreign scholars, this brochure clearly showed major research results in social sciences and economics that would not have been possible without SHP data. Moreover, more than thirty founded Swiss National Science Foundation (SNFS) projects, including comparative projects, have been based on SHP data (according to the SNFS research database P3). Finally, figure 1 shows the increasing number of publications based on SHP data, including articles in "international" journals such as American Political Science Review, Electoral Studies, Economica, the European Journal of Political Research, European Sociological Review, International Sociology, Basic and Applied Social Psychology, Journal of Happiness Studies, Journal of Research in Personality, Sociological Methods and Research, Sociological Methodology, International Journal of Public Health, European Societies, Labour Economics, The Journal of Politics, Applied Economics,

Social Indicators Research, and Research in Social Stratification and Mobility. Such publications significantly increase the visibility of Swiss researchers and/or those of the Swiss case within the international research community.

Figure 1   SHP publications cumulated by type
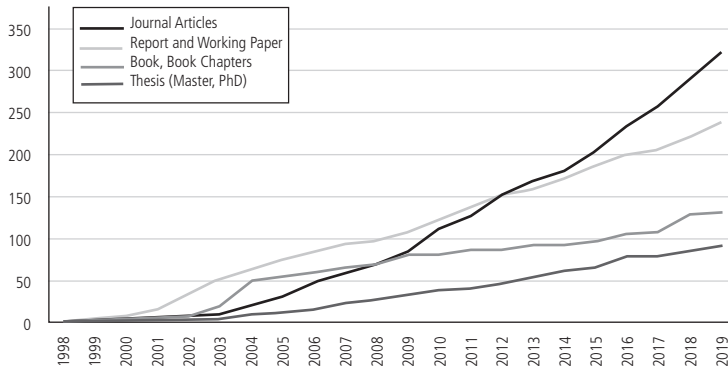
Figure 2   Round table on the future of panels

Moreover, a round table, moderated by Peter Farago, was dedicated to the "The future of households panels" with prominent scholars in the field (Michaela Benzeval, Dean Lillard, Annette Scherpenzeel, Gert Wagner), and Georg Lutz.

In this round table, three trends with regard to the future of household panel surveys were discussed: (1) the use of online and mixed modes of data collection; (2) the enrichment of survey data by linkage with register data; and (3) the challenges posed by the continuously decreasing response rates in household surveys. Firstly,

advances in information and new communication technologies and the increasing use thereof suggest that online interviewing (CAWI), or mixed mode design including online interviewing, offer promising alternative ways of survey data collection . At the same time, such mode innovations need to first be tested thoroughly for panel studies, with respect to their effect on participation rates, selection bias, and effect on the longitudinal comparability of the data. Therefore, the SHP launched a two-wave pilot study in preparation for its fourth refreshment sample, incorporating a mixed-mode experiment in 2018 and 2019. Results based on this two-wave pilot survey tend to show that the current CATI design still performs better compared to CAWI (Voorpostel et al., forthcoming). However, the costs induced by a CATI survey are much higher compared to alternative CAWI modes. Furthermore, CAWI performs quite well concerning the participation rate. However, the CAWI survey has raised some concerns regarding the quality of the data, which differs significantly from CATI and CAPI modes. The first questions generated by the results of the pilot survey concern measurement equivalence between the different modes of interviewing and the possibility to combine them. The second trend that is relevant for the future development of the SHP is the enrichment of survey data by linking it to available administrative/register data. Registers often have more accurate data than surveys on variables which are perceived as sensitive by the respondents or are difficult to answer, such as income, tax, insurance, or educational and professional trajectories. Hence, register data can be used to correct and supplement this type of survey variables, which often suffer from under- or overreporting, memory effects, and missing data caused by refusal to answer. In addition, survey questionnaires could be shortened because the variables obtained from register linkage do not have to be asked anymore. The synergies created by data linkage could thus provide the possibility to include mainly attitudinal and subjective behavioural information and reduce the length and burden of the survey.

However, a major obstacle in the use of and linkage to register data are the existing procedures and legislation of data protection, security, data access and data archiving. This difficulty is a challenge but also an opportunity: in this context, the SHP will cooperate with other surveys, in national and international perspective, to obtain a harmonised and secured mode of access for scientific researchers to register data.

The third trend that affects the future of panel surveys is the design of targeted fieldwork methods and adaptive interview modes for different groups of respondents, instead of the "one size fits all" design, as a means to combat the decreasing response rates. For example, using a shorter interview for panel members who are old or not healthy; sending different advance letters to different respondent subgroups; or using different mixed mode combinations depending on the preceding response behaviour of the panel members. The challenge of such targeted designs is to find out the reasons why different groups of panel members are less willing to participate

than others, and to address these reasons in effective ways. The SHP can base this on the results of the pilot study experimenting with online modes of data collection and on data they have about reluctant panel members from previous panel waves. The aim of using online interviewing, mixed mode designs, and other innovation in data collection methods should be to increase willingness to participate and decrease response bias, rather than saving costs.

5   Contributions to the special issue

This special issue contains nine articles. The first contribution is devoted to the political consequences of social mobility in a comparative perspective (Germany and Switzerland). The originality of the paper consists of taking into account the political ideology of both the parent and their children. Hence, Van Ditmars investigates how social mobility of children affects the transmission of political ideology from parents to children, and shows that the phenomenon varies according to different types of social mobility (vertical versus horizontal). The longitudinal analyses conducted tend to show more a self-selection mechanism into social mobility than causal effects. The second paper, by Mikucka, deals with the trajectories of life satisfaction among elderly people according to different family situations, and confronts on this topic the cumulative (dis)advantage hypothesis with the age-as-leveler hypothesis. Both hypotheses seem to fail to describe such trajectories; despite this, analysis suggest that ageing without close kin does not worsen life satisfaction of elderly population (in Switzerland). In a third contribution, Lucchini and Riva analyse the effect of the work-life interface on insomnia, which is associated with various negative consequences in different fields of life. Extending prior research, they use static and dynamic methods to define the contribution of work-life conflict and psychological detachment from work to the prediction of insomnia. Among other things, the study shows that recovery and recuperation processes from/after work seem major to the experience of insomnia, contrary to perceived work-life conflict. The fourth paper, by Coste, Henchoz and Wernli, investigates the effect of various types of debt on financial satisfaction and life satisfaction. Their analyses show, in particular, that payment arrears reduce financial satisfaction more than loans or the accumulation of different types of debt. Moreover, results highlight the effect of the duration of arrears as life satisfaction impair over time with debt burdens. Three articles belong to the field of politics. The fifth contribution is dedicated to the links between subjective well-being and political participation. With this paper, Lindholm contributes to the psychological explanations of political activity. In particular, in line with earlier research, results show that subjective well-being decreases protest intentions; simultaneously, this time contrary to the expectations, analysis demonstrate no effect of subjective well-being on formal participation. The

sixth paper, by Hadziabdic, shows that a longitudinal perspective allows solving the paradoxical lower job satisfaction of union members compared to non-members. Actually, a deterioration in job satisfaction appears to be the main reason of joining a union on the one hand. On the other hand, unions seem to be able to improve the well-being of their members after a certain number of years of membership. Voorpostel, Kuhn and Monsch examine the relationship between critical life events and support for the populist right in a seventh contribution. Thus, they show that party preference is not only shape by social class, the state of the economy or electoral campaigns but also by events in citizens' personal lives. The eighth paper, by Reveilhac and Morselli, looks at the digital shift in media consumption practices using an innovative way to exploit multiple correspondence analysis. Among other things, this contribution shows that the Swiss media space is not a dichotomous offline-online space, that the increase in online media use is firstly proper to younger cohorts, and that media consumption is cumulative. Finally, the ninth contribution, by Bornatici, Le Goff & Gauthier, deals with the evolution of attitudes towards gender equality from 2000 to 2017. In particular, the study demonstrates that the youngest cohort surprisingly holds more traditional attitudes.

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Opposing Forces? Intergenerational Social Mobility and the Transmission of Political Ideology

Mathilde M. van Ditmars*

Abstract: This study investigates the consequences of intergenerational social mobility for the transmission of political ideology from parents to adult children, taking the parental ideology explicitly into account. Analyses using German and Swiss household data show that especially the vertically upwardly mobile are less influenced by the parental ideology. However, longitudinal analyses do not indicate causal effects, but a self-selection mechanism into social mobility. These findings have consequences for the perception of social mobility effects.

Keywords: political socialization, social mobility, intergenerational transmission

Forces contraires ? Mobilité sociale intergénérationnelle et transmission idéologique

Résumé : Cet article étudie les conséquences de la mobilité sociale intergénérationnelle sur la transmission de l'idéologie politique des parents à leurs enfants adultes, en considérant l'idéologie des parentales de manière explicite. L'analyse des données de foyers allemands et suisses révèle que les individus qui connaissent une mobilité ascendante sont moins influencés par l'idéologie de leurs parents. Cependant, les analyses longitudinales n'établissent pas d'effet de causalité, mais plutôt un mécanisme d'auto-sélection vers la mobilité sociale.

Mots-clés : socialisation politique, mobilité sociale, transmission intergénérationnelle

Entgegengesetzte Dynamiken? Intergenerationelle soziale Mobilität und die Übertragung politischer Ideologie

Zusammenfassung: Die vorliegende Studie untersucht die Folgen der intergenerationellen sozialen Mobilität für die Übertragung der politischen Ideologie von Eltern (explizit berücksichtigt) auf ihre erwachsenen Kinder. Analysen deutscher und schweizerischer Haushaltsdaten zeigen, dass vor allem Personen, die in der vertikalen sozialen Hierarchie aufsteigen, weniger von der elterlichen Ideologie beeinflusst werden. Längsschnittanalysen deuten jedoch nicht auf kausale Effekte, sondern auf eine Selektion in die soziale Mobilität als Erklärung hin.

Schlüsselwörter: politische Sozialisation, soziale Mobilität, intergenerationale Übertragung

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1   Introduction[1]

The study of intergenerational social mobility is imperative to the social sciences, as it has important implications for the equality of opportunities in society. Connected to the study of class voting, the political consequences of social mobility have been studied by investigating the importance of the class of origin for political preferences and ideology of socially mobile voters, compared to the socially immobile (e.g. Turner 1992; De Graaf et al. 1995). However, political preferences of parents are left out of the equation here. As a result, not much is known about the consequences of social mobility for political socialization processes in families, whereas early socialization in the class of origin is a key mechanism in the relation between class location and political preferences.

Therefore, this study investigates the consequences of intergenerational social mobility for the transmission of political ideology from parents to their adult children. In other words: what happens to the intergenerational transmission of political ideology, when there is no transmission of class location? As social status inheritance is an important driver of intergenerational attitude transmission, social mobility can be expected to disrupt this process. Socially mobile citizens are compared to the immobile in the extent to which their political ideology is predicted by the ideology of their parents. Both vertical and horizontal social mobility are considered. Whereas vertical mobility is about the *status* of a given profession or class location, horizontal mobility regards the *field* of the profession, implying distinct work logics (Oesch 2006). Individuals' experiences under different work logics are expected to play an important role in shaping one's view of society, as recent research has shown that horizontal differentiation by work logic has implications for political preferences and ideology (Kitschelt and Rehm 2014). Thus, whereas the vertical class location is connected to political preferences in the traditional class voting perspective, the horizontal class location is a newer conception of the relationship between the work logic and political preferences. As they are jointly under study here, it can be disentangled which type of social mobility matters more for the intergenerational transmission of political ideology.

I expect that horizontal and vertical social mobility reduce the long-term political socialization process, and that the political ideology of socially mobile adult children is thus less close to their parents' ideology compared to those who remain immobile (i. e. end up in the same class location as their parents). These expectations are tested using Swiss (1999-2017) and German (2005, 2009) household studies, by jointly analysing the parental ideology and their offspring's social mobility and political ideology. To control for self-selection into social mobility, individual fixed

effects (FE) analysis is performed on the Swiss data, to model changes in individu-als' political ideology and class location over time. This analysis can show whether the findings of the first analyses are due to causal effects, or rather to a self-selection mechanism.

The remainder of this article proceeds as follows. First, the concepts of social mobility and the class scheme are described. Then, different mechanisms are presented as to how intergenerational social mobility is expected to impede the transmission of political ideology. Subsequently, the research design is discussed, and the results of the analyses are presented. Finally, I conclude that especially upward vertical social mobility shows a smaller transmission of political ideology from parent to offspring. However, longitudinal analyses show that this effect is not causal, as the adult child does not change their political ideology *after* the change in class loca-tion, rather pointing at self-selection into social mobility. Results regarding other types of mobility differ between the two countries under study. Limited evidence is found for a causal effect for one type of horizontal mobility in Switzerland, which underlines the importance of additional research regarding the connection between work logic and political preferences.

2   Vertical and horizontal intergenerational social mobility

2.1   The Oesch class scheme and ideological alignment by class location

This study makes use of the Oesch (2006) class scheme, as it takes recent changes in the social and occupational structure into account. It is composed of a vertical hierarchy reflecting occupational skill requirements and employment relationships, and horizontal differentiation by type of work logic. Most previous studies regarding class voting and social mobility use the Erikson-Goldthorpe class scheme (Erikson et al. 1979; Erikson and Goldthorpe 1992). This class scheme consists of up to 11 categories, ranging from higher-grade professionals to agricultural workers, and reflects mainly one dimension. Its aim is to represent the main occupational and class divisions of most Western industrial post-WWII societies, by differentiating positions within labour markets and production units in terms of their employment relationships (Erikson and Goldthorpe 1992, 37).

Oesch argues that due to increased female labour participation; the increased importance of the service sector; and increased levels of education, the salience of the divide between manual and non-manual labour has decreased, which asks for additional horizontal differentiation *within* the middle class (2006, 25). Therefore, he proposes a new class scheme that more adequately reflects the social stratification in contemporary Western Europe. The full class scheme consists of 16 categories.

Table 1   Oesch class scheme (8 classes) with representative occupations,
                 and place of the middle classes within the left–right spectrum.

Centre-left	Centre	Centre-right	
Interpersonal service work logic	Technical work logic	Organizational work logic	Entrepreneurial work logic
Middle class			
Socio-cultural (semi-)professionals [4.9/4.8]	Technical (semi-)professionals [5.3/4.7]	(Associate) Managers [5.9/5.3]	Large employers and self-employed professionals [6.4/5.5]
(university) teachers, journalists, social workers, medical doctors	engineers, architects, safety inspectors, computing professionals	public/business adminis-trators, financial managers, tax officials	firm owners, lawyers, accountants
Working class			
Service workers [5.2/5.1]	Production workers [4.9/5]	Office Clerks [5.3/4.8]	Small business owners (≤9/no employees) [6.4/6.2]
children's nurses, cooks, shop assistants	carpenters, assemblers, machinists, gardeners	secretaries, call centre employees, stock clerks	shop-owners, hair-dressers, farmers

Source: Oesch (2008).
Father's mean left-right position by class location between brackets, based on author's calculations using respectively SHP 1999–2017 and G-SOEP 2005, 2009.

Similar to previous studies (Oesch 2008; Oesch and Rennwald 2010), this research uses the simplified 8-category version, as depicted in Table 1.

Subsequent studies have shown that horizontal distinctions are vital for the study of political preferences and its connection with class location, as they reveal differences in political preferences within wage-earners of the middle classes in Europe (excluding the self-employed) (Oesch 2008; Kitschelt and Rehm 2014). This ideological alignment is explained either by self-selection; or socialization in the work logic: "it is the occupational experience itself that nurtures and reinforces political attitudes" (Kitschelt and Rehm 2014, 9–10). The vast differences in the day-to-day work setting are thus expected to translate into a different vision of society and corresponding political priorities. As such, managers are expected to be less in favour of economic redistribution compared to socio-cultural professionals and technical professionals. In terms of cultural preferences, socio-cultural professionals are the most liberal, followed by technical professionals, while managers hold the least libertarian views (Oesch 2008; Kitschelt and Rehm 2014). Recent work shows socio-cultural professionals standing very close to production workers in terms of state–market preferences, and that the middle classes are heterogeneous in their positions on the economic dimension (Häusermann and Kriesi 2015).

Translating this to the left–right ideological spectrum, associate managers have centre-right political ideologies, technical professionals are found around the centre, and socio-cultural professionals are centre-left, whereas the political ideology of all three working classes are found mostly around the centre to the left on the left–right scale (Kitschelt and Rehm 2014, 12). Table 1 also depicts this classification, together with father's mean left-right positions by class position, as calculated using the datasets employed in this study. While Kitschelt and Rehm's classification by ideology does not include the entrepreneurial (or independent) work logic, the data analysed here does show distinct differences by left-right ideology for these classes, especially the small business owners.

2.2 Vertical and horizontal intergenerational social mobility

Social mobility refers to the movement of individuals across social strata in society. Therefore, *intergenerational* social mobility implies having a different class location than one's parents, at the time the offspring has arrived at its own class of destination. Young children inevitably have the same class location as their parents. Using the Oesch class scheme, two different types of intergenerational social mobility can be investigated. First, vertical mobility is reached when the adult child ends up in one of the middle classes while the parent is from one of the working classes (upward vertical social mobility), or vice versa, when the child finds itself in one of the working classes whereas the parent is located in one of the middle classes (downward vertical social mobility). Second, horizontal mobility implies not working under the same work logic as the parent, and is operationalized in the following way: an adult child may have moved away from their parent's 1) interpersonal; 2) technical; 3) organizational; or 4) entrepreneurial work logic. The different categories thus represent the parent's work logic and the fact that their offspring is working in a different one. When an adult child has the same class location as the parent, this is regarded as immobile, and can apply to both horizontal and vertical mobility separately.

As the horizontally classified work logic and vertical class location are overlapping in this two-dimensional class scheme, it is possible to experience both vertical and horizontal mobility simultaneously. For instance, the child of an office clerk who becomes a socio-cultural professional experiences vertical mobility (upward, from working to middle class), and horizontal mobility compared to the parent's class location (as the parent worked in the organizational work logic, whereas the adult child works in the interpersonal logic). In this study, vertical and horizontal mobility are also studied separately in order not to conflate different mobility effects, by investigating individuals from middle- and working-class origins not only together but also independently from each other.

3   Political socialization and intergenerational social mobility

Political socialization theory identifies next to social or political learning (Bandura 1977; Jennings and Niemi 1968), the inheritance of structural factors like social class (Glass et al. 1986) as a key mechanism behind the intergenerational transmission of political preferences. Therefore, research on class transmission is crucial to political socialization research, and strongly connected to studies in class voting and social mobility. Social mobility is a key-mediating factor in the structural inheritance mechanism. When children move away from their parental social class, this means a disruption of this mechanism. It could therefore be argued that those who have become socially mobile vis-à-vis their parents are less likely to take over the political preferences of their parents, because they did not inherit their parental social class in the long run.

Since the beginning of the study of voting behaviour, structural factors such as social class form an important political cleavage in most post-industrial societies (Lipset 1960; Bartolini and Mair 1990; Evans 1993). During later years, class voting became a much-debated topic and a body of literature emerged that announced the waning influence of social class on political choice and attitudes (Franklin et al. 1992; Clark et al. 1993; for an overview see Manza et al. 1995). Not all scholars agreed on the existence of this decline, and argue it is simply a *different type* of class divide in politics (Evans 2000; Oesch 2008). However, other studies continue to show the decline in class voting (Knutsen 2006; Van der Brug 2010; Jansen et al. 2013).

A number of studies has investigated the relationship between social mobility and political attitudes and voting behaviour (e.g. Turner 1992; Clifford and Heath 1993; De Graaf et al. 1995; Benabou and Ok 2001; Clark and D'Angelo 2013). Although the findings are not uniform, the main conclusions are in line with the *acculturation hypothesis*, describing a process of (partial) adaptation to the class of destination (De Graaf et al. 1995). The political preferences of socially mobile citizens are found somewhere between the class of origin and the class of destination, and the longer one spends in the class of destination, the more the impact of the class of origin diminishes (Knutsen 2006, 1–2). Most of these studies are undertaken with data from before the 1990s and are mostly limited to the US, the UK, and The Netherlands. Additionally, most of them only take the social mobility of males into account, and they practically all make use of the Erikson–Goldthorpe class scheme. The present study updates these findings by using more recent data from two European multi-party systems, Germany and Switzerland, including males and females, and making use of the more recent Oesch class scheme.

Most importantly, previous research does not observe the political preferences of the parents, and therefore does not allow studying the actual transmission mechanism. As social mobility breaks with social status inheritance, a key mechanism in political socialization processes (Glass et al. 1986), it has several implications for

the possibility of intergenerational political preference transmission. This study focuses on the transmission of political *ideology*, since in multi-party systems – as the two countries under study here – it is most often ideology rather than partisan attachment that is transmitted, due to a multitude of political parties (Westholm and Niemi 1992; Ventura 2001). I identify three mechanisms as to how intergenerational social mobility may impede the transmission of political ideology from parents to children.

The first mechanism applies to vertical mobility only: experiencing a different socioeconomic status in society most often leads to different economic interests. Traditional rational choice and class voting theory predict that these different interests translate into different political preferences (Downs 1957; Evans 1993). An adult child who has a different vertical class location than the parents will therefore be not likely to take over the political ideology of the parents in the long run. This mechanism is specifically expected to operate for those experiencing *upward* social mobility, as their economic prospects are better compared to those of their parents. Contrarily, downwardly mobile individuals are more expected to keep identifying with (the interests of) their class of origin, as they are most likely less satisfied with the experienced mobility than the upwardly mobile. Indeed, a feeling of frustration is found among the downwardly mobile (Peugny 2006).

Second, a less structural mechanism refers to socially mobile persons having different kinship relations, and therefore applies to both vertical and horizontal mobility. Socially mobile individuals have more segmented primary social relation groups, which results in having different kinship relationships and spending leisure time rather with individuals in their destination class (Goldthorpe 1986, 160–70). This is expected to reduce the political influence of kin and to increase the level of re-socialization by new peers in their destination class (Jackman 1972; Peugny 2006), resulting in a less enduring influence of the early political socialization in the family.

A third mechanism specifically applies to horizontal mobility, and the relationship between the work logic and political ideology. Horizontal intergenerational social mobility implies the offspring is working under a different work logic than the parent. The setting of the work process and the relations of authority are therefore different, just as the sector of the occupation. As described earlier, the differences in the day-to-day work can easily translate to contrasting visions of society, with associated distinct political preferences (Oesch 2008; Kitschelt and Rehm 2014). Being re-socialized under a work logic that differs from that of the parent is expected to reduce the parent–child transmission of ideology in the long run. This expectation is mostly directed to those of middle-class origins, as only this group shows differences regarding political ideology by work logic (Kitschelt and Rehm 2014).

Based on the above considerations, the following hypotheses are put forward:
H1a. The political ideology of upwardly vertically mobile individuals is less close to the parental political ideology, compared to the socially immobile.

H1b. The political ideology of downwardly vertically mobile individuals is equally
        close to the parental political ideology, compared to the socially immobile.
H2. The political ideology of horizontally mobile individuals, especially those with
        middle-class origins, is less close to the parental political ideology, compared
        to the socially immobile.

Lastly, an additional and crucial mechanism is individuals' self-selection into inter-
generational social mobility. This mechanism is explicitly tested by individual fixed
effects analysis (see section 4.3 Model Strategy). Self-selection into social mobility
implies that people who become socially mobile are *from the outset different* from
people who do not become socially mobile. Hence, they are not different *as a causal
consequence of* their experience of social mobility. In that case, any differences between
the mobile and immobile are not due to the experience of mobility *per se*, but to the
fact that the mobile individuals were already different *before* they underwent social
mobility, which may be the reason they have become mobile in the first place. For
instance, the experience of a very intelligent child with working class origins who
receives different education than their parents from a young age onwards, could already
result in vastly different interests and preferences from their parents' social milieu, and
eventually lead to vertical mobility. A similar reasoning can be put forward regard-
ing horizontal mobility, i. e. the child choosing to work under a different work logic

than the parent, because this is a better fit with the child's preferences and abilities.
H3. The larger ideological distance between parents and their socially mobile
        offspring, compared to the socially immobile, is at least partially due to the
        individual's self-selection into social mobility.

4   Research design

4.1   Analytic sample and operationalization

Respondents are included in this analysis from age 30 years onwards, a common
practice in social mobility research (e.g. Peugny 2006; Falcon 2013). This reduces
the risk that the respondent has not yet obtained their highest level of education, or
has not yet found the (full-time) employment that indicates their eventual class of
destination. Respondents enrolled in education at time of the survey are excluded.
In contrast to previous social mobility studies, this study includes both males and
females.

        To measure social mobility, class locations of respondents are compared with
their class of origin, as indicated by the father's class location when the child was
young (Clifford and Heath 1993; De Graaf et al. 1995; Breen 2004). This choice
is based on the empirical fact that most fathers were the breadwinner in the child-

hood households of the generations under study here.[2] Relatedly, father's ideology is used as a *proxy* for parental ideology, for two reasons. Firstly, because of the usage of the father's class location and the relation between class location and political ideology that the hypotheses build upon, the father's ideology is the most intuitive choice for investigating the political ideology transmission that is partially based on the inheritance of structural factors. Similarly, the mother's political ideology is likely to relate to the father's ideology (Beck and Jennings 1975; Zuckerman et al. 2007) and his class location.

4.2 Data and variables

Data is used from the Swiss Household Panel (SHP, 1999–2017) and the German Socio-Economic Panel (G-SOEP, 2005 and 2009) surveys, using all waves that include political ideology of parents and adult children.

The dependent variable political ideology is operationalized as left–right self-placement, measured on an 11-point scale (0 to 10). The key independent variables are intergenerational social mobility and the father's political ideology (G-SOEP, direct observations of the father's left-right self-placement; SHP, retrospective variable:[3] *"And when you were about 15 years old, where did your father stand politically, if 0 means 'left-wing' and 10 means 'right-wing'?")*. As both datasets contain the left-right position of parents and offspring, this allows for direct comparison of their ideological positions, which is crucial for the purpose of this study. Left-right self-placement is a summarizing concept of individuals' political ideology that is the most widely used short-hand term in political science (Mair 2007). While indices of individuals' positions on various policy preferences provide a more fine-grained and less abstract measure of political ideology, the advantage of the use of the left-right scale is that its meaning adapts to salient issues and dimensions in politics over time, such as the increased importance of socio-cultural issues (Lachat 2018).

The class location of respondents and their father (when the respondent was 15 years old, retrospectively provided), are based on the occupation measured by

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2 The relatively low female labour force participation (CH: 35%, DE: 50%) and the domination of part-time work by women (CH: 80%, DE: 90%), during the 1980s – when the youngest respondents in this study were born – are strong indicators of the male breadwinner model (FSO 2010; OECD 2017; stats.oecd.org).

3 Research shows that this second-hand information is reliable: it strongly correlates with direct observations of the parental ideology during the panel (Pearson's $R = 0.6$, $p < 0.00$), available for 14% of respondents; and it leads to the same average position as the direct observations (Wernli 2010, 25). Moreover, author's calculations indicate that respondents are more likely to place themselves on the midpoint of the scale (30%) than their father (25%); and 28% of respondents of below average political interest place their father on the midpoint, compared to 23% of respondents on or above average political interest. This shows that also less politically interested respondents are able to place their father on the left-right scale, and do not use the mid-point as a default answer. Percentages of respondents' left-right self-placement by the retrospective positioning of their father are provided in the Appendix, Table A1.

4-digit ISCO-88 codes. These occupations are recoded[4] into the 8-class Oesch scheme. Social mobility is operationalized by two categorical variables. Vertical mobility can take the values immobile, upwardly mobile, and downwardly mobile, which implies having either a similar, lower, or higher vertical class location compared to the father. Horizontal mobility can take the values immobile, and four subsequent categories for four types of horizontal mobility: having moved away from the father's entrepreneurial, organizational, technical, or interpersonal work logic, implying that the child works under a different work logic than the father.

Control variables are included for civil status (married, divorced/separated, other), level of education (low, medium, high)[5], gender, and age. For Germany, respondents' location in 1989 is included (East or West Germany, or abroad).

4.3 Model strategy

4.3.1 Regression analysis using G-SOEP and SHP

First, cross-sectional OLS regression analysis is performed with standard errors clustered at the household level. The G-SOEP data is pooled without overlap using the 2009 observations as baseline. Of the SHP data, the most recent wave for each respondent is used. The child's left–right ideology is regressed on the father's left–right ideology and class of origin. In subsequent models, horizontal and vertical mobility are added. To test hypotheses 1 and 2 regarding the differential impact of the parental ideology by vertical and horizontal mobility, both types of mobility are interacted with father's ideology (mean-centred). To adequately test hypothesis 2, which is mostly directed to individuals with middle-class origins, models are also estimated for those respondents separately.

4.3.2 Individual fixed effects analysis using SHP

To test hypothesis 3 (self-selection mechanism), individual fixed effect (FE) models are estimated using longitudinal SHP data (1999–2017). Respondents' left–right ideology is analysed over time in relation to their change in class location, compared to the father's. To estimate this "within-persons" analysis properly, an additional category for social mobility is added: a 0-category for when the child has not arrived in the class of destination yet, i. e. before the age of 30.[6] As such, this analysis can

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4   Recoding scheme of Daniel Oesch, available through http://people.unil.ch/danieloesch/scripts/ (scripts for G-SOEP and SHP dated respectively July 2015 and February 2011, downloaded respectively March 2016 and May 2016).

5   All OLS models are also estimated without controlling for education, as one could argue that this is partially controlling the effect of social mobility away, as social mobility is often achieved through education. However, education is included in the presented models in order to isolate the mobility effect from a potential education effect. The results of the models without controlling for education are similar: the relevant coefficients are a bit larger, but do not differ importantly in size nor in statistical significance and therefore do not lead to any different conclusions.

6   Without including this additional 0-category, the analysis would be limited to only those socially mobile individuals who experienced both inter- and intragenerational mobility.

capture a change in the respondent's left–right ideology before and after arriving in the class of destination, differentiating between immobile and mobile respondents.[7] This analysis addresses the question whether individuals change their ideology *after* having become socially mobile, pointing either to a causal effect of social mobility on ideology, or a self-selection mechanism into social mobility.

5   Results

5.1   Descriptive results

Before testing the hypotheses, descriptive analyses are presented. Table 2 (Switzerland) and Table 3 (Germany) show contingency tables of respondents' class of destination by father's class location (class of origin). Class locations are grouped by work logic (respectively entrepreneurial, technical, organizational, and interpersonal). Cells on the diagonal represent the percentage of horizontally *and* vertically immobile respondents, i. e. with the *same* class location as the father. Cells highlighted in grey represent *horizontally immobile* individuals, percentages in bold represent *vertically immobile* individuals. All other cells represent individuals with a *different* class location than the father, indicating respectively horizontal (*not* highlighted in grey), vertical (percentage *not* in bold), or both types of social mobility (not highlighted and not in bold).

The patterns in both tables are similar. The highest percentage of class reproduction is formed by production workers, of which 46% (Switzerland) and 65% (Germany) have a father who was also a production worker. The lowest reproduction rates are in the interpersonal work logic (12 to 3%), due to the expansion of the service sector and decline of manual workers. Therefore, a large percentage of service workers have a father who was a production worker (respectively 42% and 61%). Another common horizontal move: clerks with fathers who were production workers. A frequent vertical move is technical (semi-)professionals with fathers who were production workers. Lastly, a large share of managers and socio-cultural (semi-)professionals has a father who was a production worker, a combination of horizontal and vertical upward mobility. These findings show that there is both vertical and horizontal social mobility across generations in Germany and Switzerland, with somewhat larger class reproduction and thus smaller mobility levels in Germany.

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7   Person-years are left out of the analysis in which individuals made an additional transition, i. e. going back from socially mobile to immobile.

Table 2   Percentages of respondents by own and father's class location,
                 Switzerland

Father's class location	Respondent's class location								
	Large emply.	Small busin.	Techn. prof.	Prod. work.	Manag.	Clerks	Socio-cult pr.	Service work.	Total
Large emply.	**7.3**	4.1	**2.8**	1.5	**3.3**	3.7	**4.1**	2.2	3.4
Small busin.	16.8	**32.8**	15.9	28.3	17.6	18.4	15.5	**25.7**	21.3
Technical prof.	**10.9**	6.9	**13.0**	4.5	**9.4**	6.3	**11.7**	5.1	8.3
Prod. workers	25.5	**30.2**	33.2	**45.5**	31.2	**37.1**	25.2	**42.0**	34.0
Managers	**22.0**	13.7	**16.5**	7.6	**20.2**	16.1	**19.0**	10.6	15.7
Clerks	5.9	**5.0**	6.4	**5.4**	7.5	**9.0**	7.8	**6.4**	6.9
Socio-cult. prof.	**8.5**	3.9	**6.4**	2.2	**6.0**	3.1	**12.3**	3.6	5.8
Service workers	3.2	**3.5**	5.8	**5.1**	4.8	**6.2**	4.4	**4.4**	4.8
Total	100	100	100	100	100	100	100	100	100

Source: SHP 1999–2017. N = 12,825.
Cells highlighted in grey represent *horizontally immobile* individuals, percentages in bold represent *vertically immobile* individuals.

Table 3   Percentages of respondents by own and father's class location,
                 Germany

Father's class location	Respondent's class location								
	Large emply.	Small busin.	Techn. prof.	Prod. work.	Manag.	Clerks	Socio-cult pr.	Service work.	Total
Large emply.	**11.3**	4.9	**2.6**	0.8	**2.4**	1.0	**3.8**	0.8	2.6
Small busin.	6.9	**11.2**	6.5	**6.3**	6.2	**7.6**	6.8	**6.4**	6.9
Technical prof.	**14.1**	10.6	**17.1**	4.3	**13.8**	8.9	**13.1**	5.6	10.6
Prod. workers	22.3	**38.5**	39.0	**65.4**	37.0	**47.2**	34.5	**61.0**	45.4
Managers	**19.9**	16.3	**15.1**	7.6	**20.1**	13.6	**17.3**	8.6	14.5
Clerks	6.9	**5.5**	7.8	**4.9**	8.9	**8.2**	8.3	**5.2**	7.1
Socio-cult. prof.	**13.1**	5.1	**6.7**	1.5	**5.5**	4.6	**10.6**	2.7	5.6
Service workers	5.5	**8.0**	5.3	**9.2**	6.1	**9.0**	5.7	**9.8**	7.4
Total	100	100	100	100	100	100	100	100	100

Source: G-SOEP 2009. N = 6,050.
Cells highlighted in grey represent *horizontally immobile* individuals, percentages in bold represent *vertically immobile* individuals.

5.2   OLS analyses for Switzerland and Germany

The first OLS models are presented in Table 4.[8] Model 1 shows that father's ideology predicts adult child's ideology (b is respectively 0.25 and 0.21), also when controlling for father's class location. These results indicate that the parental socialization does not only run through the inheritance of structural factors, indicating social and political learning as another driver of intergenerational attitude transmission. In model 2, social mobility of the child is added. Whereas in Germany only a few mobility effects are found, in Switzerland there are many.

Table 4   OLS regressions of child's ideology on father's ideology and social mobility

Left-right self-placement	Switzerland		Germany	
	(1)	(2)	(1)	(2)
Father's L/R ideology	0.248***	0.246***	0.211***	0.211***
	(0.0113)	(0.0113)	(0.0521)	(0.0513)
Vertical Mobility (ref = no mobility)				
Downward		0.215**		-0.0942
		(0.0870)		(0.242)
Upward		−0.330***		−0.320*
		(0.0646)		(0.177)
Horizontal Mobility (ref = no mobility)				
Move from Entrepreneurial		−0.321***		-0.714
		(0.111)		(0.724)
Move from Organizational		−0.476***		0.0365
		(0.0932)		(0.268)
Move from Technical		0.112		0.345**
		(0.0936)		(0.174)
Move from Interpersonal		0.299**		0.231
		(0.133)		(0.348)
Father's class location	✓	✓	✓	✓
Controls	✓	✓	✓	✓
Year of interview dummies	✓	✓		
Constant	5.245***	5.235***	4.856***	5.292***
	(0.705)	(0.646)	(0.649)	(0.691)
Observations	7685	7685	770	770
R-squared	0.135	0.143	0.088	0.099

Source: SHP 1999–2017; G-SOEP 2005 and 2009. SEs in parentheses, clustered at the household. ***p < 0.01, **p < 0.05, *p < 0.1

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8   Full models are available in the Appendix, Table A2.

In both countries, upwardly mobile individuals take more leftist positions compared to the immobile: a difference of about one-third point on the left-right scale. In Switzerland, downwardly mobile respondents take more rightist positions (b = 0.22), similar to the horizontally mobile who moved away from the father's interpersonal work logic (b = 0.30). On the other hand, those who have moved away from the father's entrepreneurial (−0.32) or organizational work logic (−0.48), take more leftist positions than the immobile. In Germany, the only horizontal mobility effect is found for offspring of fathers from the technical logic (b = 0.35). These findings imply that socially mobile individuals are different from the immobile, most likely a combination of mobility and class of origin effects.

To test whether the impact of father's ideology on offspring's ideology differs by the experience of social mobility (H1 and H2), interaction effects are modelled between social mobility and father's ideology.[9] The relevant comparison is thus between the coefficients of the father's ideology by different categories of social mobility. Firstly, father's ideology is interacted with vertical mobility. The calculated marginal effects are presented in Figure 1. The results indicate support for hypothesis 1a in both countries with statistically significant negative interaction effects: a smaller ideological transmission is found among the upwardly mobile, compared to the immobile. In Switzerland, upwardly mobile adults are statistically significant (p < 0.05) less influenced by their father's ideology than immobile adults, with a difference of .06 (respective marginal effects of 0.27 and 0.21). In line with hypothesis 1b, there are no differences between the downwardly mobile and the immobile. In Germany, differences are larger and found for both types of vertical mobility, which supports hypothesis 1a but not hypothesis 1b. Immobile individuals are influenced by their father's ideology with a coefficient of 0.33, while for the upwardly *and* downwardly mobile this drops to non-statistically significant effects (respectively 0.048 (p = 0.82) and 0.028 (p = 0.56)).

Subsequently, horizontal mobility is interacted with father's left-right ideology, showing no statistically significant interaction terms in both countries. This implies that the horizontally mobile and immobile are equally influenced by their father's ideology, contrary to H2. As this hypothesis is more specifically directed to individuals with middle class origins, this interaction model is also estimated limited to those respondents, but only for Switzerland as the German subsample contains too few observations (N = 306) for reliable results using a 5-category interaction. Figure 2 presents the calculated marginal effects of the interaction models using the whole German sample, and the Swiss sample limited to middle class origins. In Switzerland, one significant positive interaction effect (p = 0.09) is observed: middle class-origin respondents who moved away from their father's interpersonal work logic (i. e. socio-cultural professionals), are *closer* to the parental ideology than the

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9   For sake of parsimony, Figure 1 and 2 present the marginal effects from these interactions. The full OLS model coefficients are available in the Appendix, Table A3.

Figure 1   Marginal effects of father's ideology on child's ideology, by vertical mobility (interaction)
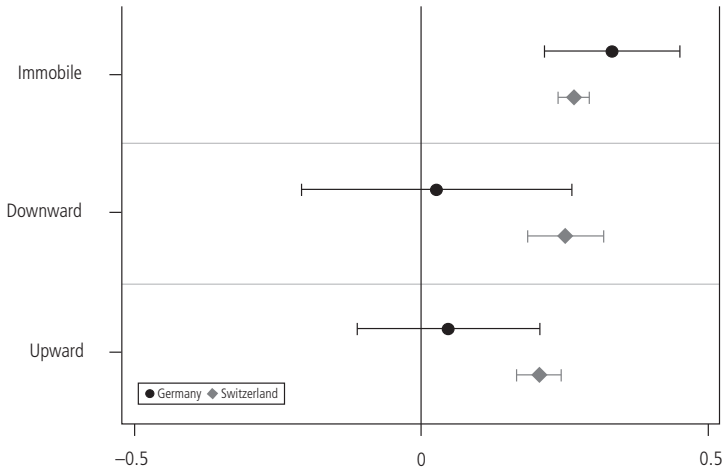
Source: G-SOEP 2005 and 2009 (N: 770); SHP 1999–2017 (N: 7.685). Marginal effects calculated on the basis of regression model 3 in Table A3.

Figure 2   Marginal effects of father's ideology on child's ideology, by horizontal mobility (interaction)
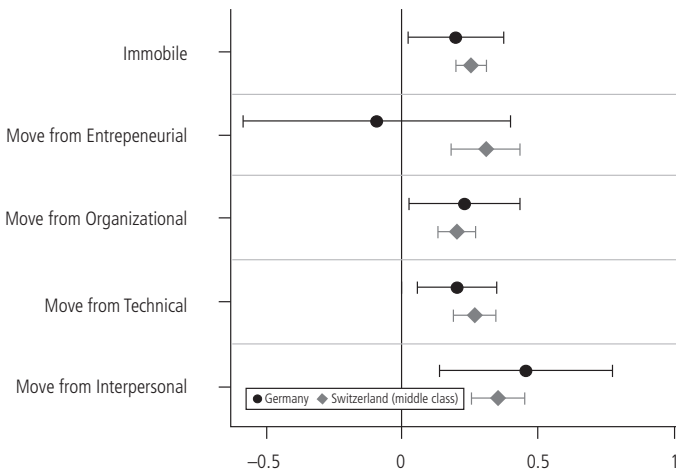
Source: G-SOEP 2005 and 2009 (N: 770, full sample); SHP 1999–2017 (N: 2,842, middle class only). Marginal effects calculated on the basis of regression models 4 (DE) and 5 (CH) in Table A3.

immobile. The difference in coefficient is 0.1 (marginal effect of 0.35, compared to 0.25 for the immobile). This reflects the strong ideological alignment of the socio-cultural professionals, which is robustly transmitted to their offspring.

In short, the results indicate support for hypothesis 1. In line with H1a, upwardly mobile individuals are less influenced by the father's ideology in both countries. In Germany, a similar effect is also found for the downwardly mobile, whereas in Switzerland – as expected in H1b – this is not the case. H2 is not supported by the findings, as horizontally mobile groups are most often equally influenced by the father's ideology as the immobile. An exception is the offspring of socio-cultural professionals in Switzerland, as they are closer to the father's ideology.

5.3   Individual fixed effect analysis for Switzerland

What the foregoing analyses have not been able to address, is to what extent socially mobile people have different political preferences (compared to their parents) *from the outset*, or whether the fact that they have become socially mobile has caused them to change their ideology over time, making them move away from the father's ideology. Put simply: are the previous findings for the upwardly mobile due to self-selection into social mobility, or is there a causal effect?

The individual FE analysis shows to what extent individuals' ideology changes over time, after becoming socially mobile. As before, the dependent variable is the ideology of the adult child, but in these analyses this is also indicative of the distance to the father's ideology. As the father's ideology is observed at one specific point in time and all time-invariant observations will drop out of the FE analysis, and observations for all respondents over time are de-meaned (Allison 2009, 19), it does not make a difference whether to look at the child's *ideology* or the child's *distance to the father's ideology* in this analysis.

Table 5 presents the results, i. e. the effects of social mobility on ideology *within* individuals over time. Model 1 shows no significant effects of downward or upward vertical social mobility on left–right ideology. These findings imply that the previously found larger difference in ideology between upwardly mobile children and their father, compared to those who are immobile, is not due to a *change* in the ideology of the children after experiencing social mobility, but most likely to self-selection into social mobility. Rather than a causal effect, it is the result of an earlier process, which may have led to the child becoming upwardly mobile. These findings support hypothesis 3.

For horizontal mobility (model 2), the results indicate that horizontally mobile individuals who moved away from the father's interpersonal work logic move towards the right on the left–right scale, as indicated by positive effects (in line with previous OLS results). This implies that these individuals have moved away from their fathers' centre-left positions after experiencing horizontal mobility. Findings are similar when separating respondents from working and middle-class origins

Table 5   Individual fixed effects analysis: left–right Ideology on intergenerational social mobility, Switzerland

Left–right self-placement	(1)	(2)
Vertical Mobility (ref = no mobility)		
No class location yet	0.000709	
	(0.0354)	
Downward	−0.0194	
	(0.0406)	
Upward	−0.00305	
	(0.0299)	
Horizontal Mobility (ref = no mobility)		
No class location yet		0.0404
		(0.0385)
Move from Entrepreneurial		−0.0266
		(0.0431)
Move from Organizational		0.0258
		(0.0448)
Move from Technical		0.0657
		(0.0409)
Move from Interpersonal		0.190***
		(0.0647)
Age in year of interview	0.0177***	0.0177***
	(0.00109)	(0.00109)
Constant	3.915***	3.880***
	(0.0574)	(0.0594)
N person-years	62 591	62 591
N individuals	8820	8820
R-squared	0.005	0.005

Source: SHP 1999–2017. SEs in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

(Appendix Table A4, model 3 and 4), but with a larger effect size among the working class (respectively 0.28 and 0.14). A model including both types of mobility jointly for all respondents (Table A4, model 5), does not lead to any different conclusions.

These results indicate that horizontally mobile offspring of fathers who are socio-cultural professionals and service workers are the only groups that show a change in ideology after experiencing social mobility. Combining this with the previous finding that offspring of socio-cultural professionals stand *closer* to the father's ideology, it most likely implies that this group was even more strongly influenced by their parents to start with (which we do not observe here). Then, due to the mobility they moved a bit away, but compared to the immobile they still have ideological positions closer to that of their parents. These findings underline the strong ideological alignment

of socio-cultural professionals and its transmission to their offspring. However, as they start working under a different work logic, they become influenced by their new environment and re-socialized into the new work logic. This is in line with the work of Kitschelt and Rehm (2014) stressing the importance of the work logic for the differentiation in political orientations, especially among the middle class.

6   Conclusion

In contrast with previous studies regarding the political consequences of social mobility, this study takes the political ideology of both the parent and their offspring into consideration. As such, this study has investigated the question how vertical and horizontal intergenerational social mobility of children affects the *transmission* of political ideology from parents to children. The main conclusion is that vertical mobility is most consequential in impeding the intergenerational transmission process, compared to horizontal mobility. However, no change in offspring's ideology is observed after experiencing vertical mobility, pointing at a self-selection mechanism. I further elaborate on the findings in the remainder of this section.

Based on the results, I firstly conclude that socially mobile individuals are indeed different from their immobile peers. Individuals who have experienced social mobility, differ in ideology from their immobile peers: the upwardly mobile show more leftist positions, while the downwardly mobile in Switzerland are found to the right of the immobile. Horizontal mobility also implies having distinct positions from the immobile. The findings indicate that vertically socially mobile individuals are less close to the political ideology of their father, in line with expectations. The fact that both downward and upward social mobility indicate a larger ideological distance to the father in Germany, compared to only upward mobility in Switzerland, may signify that vertical differences are more important for ideological differentiation across classes in Germany.

These findings raise the question whether differences between socially mobile and immobile citizens are due to the actual experience of social mobility, or to the fact that those who became mobile were different from the outset. Longitudinal fixed effects analyses indicate that previous findings are indeed due to self-selection into social mobility, as most respondents did not change their political ideology after experiencing social mobility. However, it should be noted that the use of left-right positions as a summary measure of political ideology may result in lower-bound estimates here, and perhaps a change would be observed in individuals' positions on specific policy issues. An alternative explanation could be that the process of adaptation is more incremental, and is therefore not observed in these analyses that estimate a change in ideology after becoming socially mobile. This also relates to education as a vehicle for social mobility. As upward mobility is often a consequence

of a higher level of education than the parents, perhaps processes of re-socialization already occur over the course of the study and therefore no direct change is observed after arrival in the class of destination. However, choice of study is already part of a self-selection mechanism, and therefore one cannot disentangle these processes. Therefore, the conclusions of this study may cast doubt on earlier findings regarding the consequences of social mobility for political preferences, as the results here do not indicate causal effects of vertical social mobility.

Findings are different for horizontally mobile offspring of fathers in the interpersonal logic, and reveal a complex interplay of the ideology of parents and children and how it relates to offspring's social mobility. While the cross-sectional results for the middle class imply a smaller difference to the parental ideology compared to the immobile, the FE analyses also show that this group does move away from the parental ideology as a consequence of horizontal mobility. These findings point at an enduring socialization in the class of origin, and at the same time the re-socializing power of the class of destination with a different work logic. Additional research is needed to further disentangle the processes that underlie the leverage of the work logic for political ideology. Although these findings are limited to one type of horizontal mobility, this study provides a first step into showing the importance of the father's work logic combined with the consequences of moving towards a different field than the father.

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Appendix

Table A1   Percentages of respondents by own left-right self-placement
                    and their father's left-right position (retrospectively provided by
                    respondent), Switzerland

| Father's left-right position | Respondent's left-right self-placement | | | | | | | | | | | Total |
	0	1	2	3	4	5	6	7	8	9	10	
0	26.5	12.1	7.3	7.6	5.3	4.9	3.0	1.5	3.0	4.2	5.1	5.8
1	3.8	9.9	2.4	1.3	1.5	0.6	0.3	0.5	0.4	0.0	1.5	1.1
2	8.7	7.7	14.3	7.5	5.4	4.1	3.2	2.3	2.0	2.1	0.0	4.9
3	7.3	15.4	10.5	11.7	8.6	7.0	4.6	5.4	4.8	1.0	1.5	7.2
4	11.3	12.1	10.9	12.0	11.4	6.8	7.5	5.9	2.7	4.2	2.9	8.0
5	18.0	12.1	22.4	20.3	23.6	35.5	21.1	22.7	18.2	16.7	18.6	25.4
6	3.2	4.4	6.0	10.1	12.0	8.0	16.5	11.9	10.2	8.3	4.7	9.8
7	4.7	7.7	10.0	14.7	17.0	13.5	21.5	23.6	16.4	16.7	10.6	15.5
8	7.9	14.3	7.5	9.5	10.7	11.7	14.3	18.0	26.0	22.9	19.3	13.3
9	1.5	2.2	3.2	2.3	1.7	1.9	2.6	3.2	5.5	10.4	4.4	2.6
10	7.3	2.2	5.6	3.0	2.9	6.0	5.5	5.0	10.9	13.5	31.6	6.5
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: SHP 1999–2017. N = 7,685.

Table A2   OLS regressions of child's ideology on father's ideology and social
                mobility (full models, table 4)

Left-right self-placement	Switzerland		Germany	
	(1)	(2)	(1)	(2)
Father's L/R ideology	0.248***	0.246***	0.211***	0.211***
	(0.0113)	(0.0113)	(0.0521)	(0.0513)
Vertical Mobility (ref = no mobility)				
Downward		0.215**		−0.0942
		(0.0870)		(0.242)
Upward		−0.330***		−0.320*
		(0.0646)		(0.177)
Horizontal Mobility (ref = no mobility)				
Move from Entrepreneurial		−0.321***		−0.714
		(0.111)		(0.724)
Move from Organizational		−0.476***		0.0365
		(0.0932)		(0.268)
Move from Technical		0.112		0.345**
		(0.0936)		(0.174)
Move from Interpersonal		0.299**		0.231
		(0.133)		(0.348)
Father's class location (ref = Large empl. andSelf-empl. prof.)				
Small business owners	−0.0774	0.198	0.709	1.166
	(0.122)	(0.130)	(0.585)	(0.752)
Technical (semi-)professionals	−0.220	−0.533***	0.0253	−0.519
	(0.135)	(0.175)	(0.437)	(0.438)
Production workers	−0.226*	−0.271	0.276	−0.132
	(0.121)	(0.171)	(0.416)	(0.439)
(Associate) managers	−0.161	−0.0971	0.463	0.117
	(0.125)	(0.159)	(0.422)	(0.457)
Clerks	−0.301**	0.0438	0.390	0.179
	(0.142)	(0.183)	(0.457)	(0.515)
Socio-cultural (semi-)prof.	−0.539***	−0.931***	−0.278	−0.755
	(0.140)	(0.171)	(0.497)	(0.568)
Service workers	−0.0813	−0.254	0.519	0.128
	(0.156)	(0.212)	(0.456)	(0.526)
Civil status (ref = married)				
Divorced/separated	−0.232***	−0.236***	0.235	0.195
	(0.0739)	(0.0738)	(0.240)	(0.245)
Other	−0.228***	−0.223***	−0.0717	−0.0845
	(0.0618)	(0.0617)	(0.136)	(0.135)

Continuation of table A2.

Left–right self-placement	Switzerland		Germany	
	(1)	(2)	(1)	(2)
Level of education (ref = medium)				
Low	0.110	0.0758	−0.168	−0.165
	(0.0907)	(0.0907)	(0.216)	(0.217)
High	−0.477***	−0.373***	−0.195	−0.145
	(0.0528)	(0.0557)	(0.227)	(0.238)
Female	−0.623***	−0.628***	−0.502***	−0.551***
	(0.0436)	(0.0455)	(0.122)	(0.129)
Age	0.00745***	0.00724***	−1.85e-05	−0.00255
	(0.00180)	(0.00180)	(0.0134)	(0.0136)
Location in 1989 (ref = East DE)				
West DE			0.0285	0.0435
			(0.143)	(0.144)
Abroad			−0.682	−0.681
			(0.513)	(0.533)
Year of interview dummies	✓	✓		
Constant	5.245***	5.235***	4.856***	5.292***
	(0.705)	(0.646)	(0.649)	(0.691)
Observations	7685	7685	770	770
R-squared	0.135	0.143	0.088	0.099

Source: SHP 1999–2017. N = 7,685.

Table A3   OLS interaction models: child's ideology on social mobility ×
                  father's ideology

Left-right self-placement	Switzerland			Germany		
	(3)	(4)	(5)	(3)	(4)	(5)
			MC origin			MC origin
Father's L/R ideology	0.266***	0.245***	0.255***	0.331***	0.198**	0.231
	(0.0146)	(0.0206)	(0.0295)	(0.0599)	(0.0897)	(0.157)
Vertical Mobility (ref=no mobility)						
Downward	0.215**	0.215**	0.226**	−0.120	−0.0644	0.0430
	(0.0872)	(0.0868)	(0.0936)	(0.239)	(0.246)	(0.263)
Upward	−0.334***	−0.330***		−0.298*	−0.334*	
	(0.0646)	(0.0647)		(0.176)	(0.177)	
Downward Mobility*Father's L/R	−0.0146			−0.308**		
	(0.0366)			(0.134)		
Upward Mobility*Father's L/R	−0.0606**			−0.286***		
	(0.0243)			(0.0989)		
Horizontal Mobility (ref = no mobility)						
Move from Entrepreneurial	−0.311***	−0.318***	−0.0752	−0.730	−0.461	0.0185
	(0.111)	(0.114)	(0.148)	(0.752)	(0.622)	(0.559)
Move from Organizational	−0.475***	−0.471***	−0.297***	0.0701	0.0332	0.174
	(0.0932)	(0.0930)	(0.0945)	(0.257)	(0.267)	(0.244)
Move from Technical	0.107	0.119	−0.162	0.305*	0.343**	0.00432
	(0.0935)	(0.0951)	(0.105)	(0.172)	(0.173)	(0.282)
Move from Interpersonal	0.286**	0.318**	−0.277**	0.177	0.155	−0.233
	(0.133)	(0.134)	(0.138)	(0.342)	(0.342)	(0.326)
Move from Entrepr.*Father's L/R		−0.00366	0.0549		−0.288	−0.896*
		(0.0343)	(0.0723)		(0.266)	(0.471)
Move from Organiz.*Father's L/R		−0.0405	−0.0528		0.0344	0.0103
		(0.0370)	(0.0468)		(0.139)	(0.203)
Move from Techn.*Father's L/R		0.0123	0.0133		−0.000884	0.0214
		(0.0284)	(0.0484)		(0.115)	(0.213)
Move from Interp.*Father's L/R		0.0515	0.0994*		0.261	0.220
		(0.0443)	(0.0586)		(0.165)	(0.207)
Father's class location (ref = Large empl. And Self-empl. prof.)						
Small business owners	0.219*	0.199		1.165	1.380*	
	(0.130)	(0.130)		(0.807)	(0.746)	
Technical (semi-)professionals	−0.506***	−0.538***		−0.512	−0.478	
	(0.176)	(0.177)		(0.474)	(0.447)	

Continuation of table A3 on the following page.

Continuation of table A3.

Left-right self-placement	Switzerland			Germany		
	(3)	(4)	(5)	(3)	(4)	(5)
			MC origin			MC origin
Production workers	−0.254	−0.273		−0.142	−0.0716	
	(0.171)	(0.173)		(0.480)	(0.451)	
(Associate) managers	−0.0844	−0.0933		0.0657	0.168	
	(0.159)	(0.159)		(0.484)	(0.469)	
Clerks	0.0597	0.0325		0.142	0.240	
	(0.183)	(0.184)		(0.545)	(0.525)	
Socio-cultural (semi-)prof.	−0.895***	−0.933***		−0.752	−0.681	
	(0.172)	(0.174)		(0.590)	(0.580)	
Service workers	−0.224	−0.256		0.145	0.161	
	(0.212)	(0.213)		(0.555)	(0.537)	
Civil status (ref=married)						
Divorced/separated	−0.231***	−0.235***	−0.212*	0.230	0.216	0.115
	(0.0737)	(0.0739)	(0.117)	(0.247)	(0.241)	(0.294)
Other	−0.221***	−0.221***	−0.222**	−0.0691	−0.0727	−0.204
	(0.0617)	(0.0617)	(0.0922)	(0.133)	(0.135)	(0.213)
Level of education (ref=medium)						
Low	0.0752	0.0743	−0.167	−0.175	−0.180	0.245
	(0.0907)	(0.0909)	(0.207)	(0.218)	(0.219)	(0.666)
High	−0.374***	−0.373***	−0.492***	−0.149	−0.156	0.373
	(0.0557)	(0.0557)	(0.0970)	(0.236)	(0.239)	(0.668)
Female	−0.624***	−0.627***	−0.732***	−0.543***	−0.543***	−0.150
	(0.0456)	(0.0455)	(0.0740)	(0.128)	(0.130)	(0.207)
Age	0.00708***	0.00728***	0.0111***	−0.00488	−0.00379	−0.00213
	(0.00180)	(0.00181)	(0.00287)	(0.0134)	(0.0135)	(0.0208)
Location in 1989 (ref=East DE)						
West DE				0.0639	0.0524	0.167
				(0.146)	(0.148)	(0.236)
Abroad				−0.696	−0.681	0.650
				(0.535)	(0.537)	(0.402)
Year of interview dummies	✓	✓	✓			
Constant	5.207***	5.271***	6.103***	5.389***	5.280***	4.431***
	(0.663)	(0.615)	(0.226)	(0.704)	(0.705)	(1.053)
Observations	7,685	7,685	2,842	770	770	306
R-squared	0.144	0.144	0.161	0.121	0.106	0.114

Source: G-SOEP 2005 and 2009; SHP 1999–2017. SEs in parentheses, clustered at the household. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Table A4   Individual fixed effects analysis: left–right Ideology on
                  intergenerational social mobility, Switzerland (table 5,
                  including extra models 3–5)

Left–right self-placement	(1)	(2)	(3) WC origin	(4) MC origin	(5)
Vertical Mobility (ref=no mobility)					
No class location yet	0.000709				0.0373
	(0.0354)				(0.0394)
Downward	−0.0194				−0.0303
	(0.0406)				(0.0410)
Upward	−0.00305				−0.00393
	(0.0299)				(0.0301)
Horizontal Mobility (ref= no mobility)					
No class location yet		0.0404	0.0706	0.0164	–
		(0.0385)	(0.0556)	(0.0521)	
Move from Entrepreneurial		−0.0266	−0.0185	−0.0297	−0.0270
		(0.0431)	(0.0506)	(0.0917)	(0.0433)
Move from Organizational		0.0258	0.127	−0.0152	0.0295
		(0.0448)	(0.0891)	(0.0492)	(0.0451)
Move from Technical		0.0657	0.0519	0.115	0.0655
		(0.0409)	(0.0501)	(0.0731)	(0.0410)
Move from Interpersonal		0.190***	0.283**	0.136*	0.194***
		(0.0647)	(0.114)	(0.0750)	(0.0649)
Age in year of interview	0.0177***	0.0177***	0.0173***	0.0185***	0.0177***
	(0.00109)	(0.00109)	(0.00144)	(0.00164)	(0.00109)
Constant	3.915***	3.880***	3.959***	3.752***	3.883***
	(0.0574)	(0.0594)	(0.0813)	(0.0851)	(0.0603)
N person-years	62,591	62,591	37,947	24,644	62,591
N individuals	8,820	8,820	5,371	3,449	8,820
R-squared	0.005	0.005	0.005	0.007	0.005

Source: SHP 1999–2017. SEs in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Old-Age Trajectories of Life Satisfaction. Do Singlehood and Childlessness Hurt More When People Get Older?

Małgorzata Mikucka*

Abstract: This paper analyses trajectories of life satisfaction among elderly people in various family situations and tests whether the disadvantage related to being single or childless increases (as predicted by cumulative (dis)advantage hypothesis) or reduces (consistently with age-as-leveler hypothesis) when people get older. The results show that the disadvantage of never married mothers grows with age, whereas the disadvantage of divorced people reduces with age. The study suggests that, in general, the increasing probability of ageing without close kin does not put at risk life satisfaction of elderly people.

Keywords: life satisfaction, cumulative (dis)advantage, age-as-leveler

Trajectoires de satisfaction de la vie des personnes âgées. Le célibat et l'infécondité font-ils plus mal à la vieillesse plus avancée ?

Résumé : Cet article analyse les trajectoires de satisfaction de la vie des personnes âgées dans diverses situations familiales et teste si le désavantage lié au fait d'être célibataire ou sans enfant augmente (comme le prédit l'hypothèse cumulative avantage) ou diminue (conformément à l'hypothèse de l'âge en tant que niveleur) lorsque les gens ont vieilli. Les résultats montrent que le désavantage des mères jamais mariées augmente avec l'âge, tandis que le désavantage des personnes divorcées diminue avec l'âge. L'étude suggère que, en général, la probabilité croissante de vieillir sans proches parents ne constitue pas un risque particulier pour la satisfaction de la vie des personnes âgées.

Mot-clés : satisfaction à l'égard de la vie, (dis)avantage cumulatif, âge en tant que niveleur

Altersverläufe der Lebenszufriedenheit. Verletzen Alleinsein und Kinderlosigkeit im fortgeschrittenen Alter mehr?

Zusammenfassung: Dieser Aufsatz analysiert die Lebenszufriedenheit älterer Menschen in verschiedenen Familiensituationen und prüft, ob der Nachteil in Bezug auf Alleinstehende oder Kinderlose zunimmt (wie durch die kumulative Vorteilshypothese vorhergesagt) oder abnimmt (konsistent mit der Age-as-Leveler-Hypothese), wenn Leute älter werden. Die Ergebnisse zeigen, dass der Nachteil von nie verheirateten Müttern mit dem Alter zunimmt, während der Nachteil von geschiedenen Menschen mit dem Alter abnimmt. Die Studie legt nahe, dass die zunehmende Wahrscheinlichkeit des Älterwerdens ohne nahe Verwandte im Allgemeinen kein besonderes Risiko für die Lebenszufriedenheit älterer Menschen darstellt.

Schlüsselwörter: Lebenszufriedenheit, kumulativer Vorteil, Age-as-Leveler-Hypothese

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1   Introduction

European populations are ageing. Over the coming 50 years, due to increasing life expectancy, low fertility, and low immigration, population of people aged 65 or older in EU countries is expected to increase by almost one third, whereas the working-age population would decline in absolute (European Union 2018). Family patterns are changing too. Childlessness reached levels of about 20% in some European regions, and continues to grow in others (Kreyenfeld and Konietzka 2017; Miettinen et al. 2015). With marriages rates decreasing and growing divorce rates, life-long marriage becomes a story of the past. As a consequence, the share of older adults without close kin (i. e. childless and unmarried) will likely increase in the future. The limited kin networks may reduce social support available to the elderly, with potentially negative consequences for their life satisfaction. The shortages of family support may create a vacuum which will burden welfare systems, putting forward life satisfaction of the older population as one of the most important societal challenges.

Past research studied life satisfaction differences between married and single elderly, and between parents and childless people (e. g., Albertini and Mencarini 2014; Berg et al. 2006; Dykstra and Hagestad 2007; 2016). We know that old-age singlehood is typically associated with lower life satisfaction and that childlessness creates disadvantage in some groups, mainly among the previously married (Dykstra 2009). However, the question whether the disadvantage of elderly without close kin worsens or attenuates as they are getting older has not been tackled by past studies.

This paper contributes to fill this gap by studying the dynamics of life satisfaction (defined as a global evaluative judgement about one's life, see: Kim-Prieto et al. 2005) among people aged 60 to 89 in Switzerland. The starting point of my analysis is to test whether family situation correlates with life satisfaction among the elderly. However, my main goal is to check whether the gaps between more satisfied and less satisfied groups widen or narrow down as people get older.

For the purpose of this paper, I define family situation as an intersection of parenthood and marital status. I distinguish between parents and childless people, and between married, never married, divorced, and widowed elderly. This definition requires two additional comments. First, I consider widowed, divorced, and never married people separately, although all these groups have no marital partner. I do this because past research showed different ageing patterns (Koropeckyj-Cox 1998) and different consequences of childlessness among previously married and never married people (Dykstra and Wagner 2007). Past studies demonstrated also that life satisfaction trajectories following divorce differed from those which followed widowhood (Frijters et al. 2011). The second comment pertains to the fact that in the analysis I focus on marital rather than on partnership status. The theoretical rationale of this decision is the greater, on average, stability of marital than non-marital unions. I discuss this issue in more detail in section 2.2.1.

Theoretically, two mechanisms may shape the shifts associated with ageing (Ferraro and Wilkinson 2013). According to *cumulative (dis)advantage* hypothesis, mid-life differences widen with age due to longer accumulation of positive (or negative) influences of one's resources and living environment (Dannefer 2003). Alternatively, according to *age-as-leveler* hypothesis, the mid-life differences narrow down with age, because resources and living conditions lose their importance when biological frailty and health problems come to the first plan. The goal of this article is to provide the first test of whether life satisfaction differences associated with family situation widen or narrow down as people get older. In other words, I test whether singlehood and childlessness become a greater disadvantage as people move towards more advanced old age.

2   Background and past research

2.1   Family situation and life satisfaction

Married people are in general more satisfied with their lives than the unmarried. Part of the effect is causal. Married couples have an economic advantage over unmarried people (Killewald 2013) due to economic specialization (Becker 1998) and marital wage premium of men (Ludwig and Brüderl 2018). Marriage is also a source of social and psychological resources: it gives people a sense of belonging, being important, loved, and valued (Musick and Bumpass 2012) and connects them with social networks that provide instrumental help, information, and advice (Thoits 2011). Selection also plays a role: happier singles are more likely to marry than the unhappy ones, and people who eventually divorce tend to be less happy already before getting married (Stutzer and Frey 2006). Just as marriage benefits life satisfaction, marital dissolution reduces life satisfaction, and widowhood and divorce are among the events most negatively affecting life satisfaction (e. g., Frijters et al. 2011).

These patterns hold also in the old age. Lifelong marriage seems particularly beneficial for life satisfaction, which, consistently with cumulative (dis)advantage mechanism, suggests that old age differences are greater than differences during midlife (e. g., Wilmoth and Koso 2002). Empirical studies showed that widowed and divorced elderly tended to suffer from more depressive symptoms than the married (Bures et al. 2009; Koropeckyj-Cox 1998), and the transition to widowhood correlates with a decline in life satisfaction (Chipperfield and Havens 2001). However, the positive effect of marriage is less clear-cut compared to the never married. Elderly who did not form a family of their own, i. e. those who never married and remained childless, declare similar levels of depression as their married counterparts (Koropeckyj-Cox 1998).

Economic models of parenthood postulate that adult children are a source of pragmatic support for elderly people. Embodying the same idea, legal systems formulate maintenance obligations between adults and their parents (Dykstra and Hagestad 2016). However, in Western welfare states, the elderly satisfy their everyday needs with the help of their pensions, health care system, and social services rather than with the help of their adult children. The intergenerational exchange is dominated by downward (i. e. from parents to children) transfers of both financial resources and care (Bernard et al. 2001). Although the downward flow decreases as parents get older, even those aged 70 or more remain net givers (Albertini et al. 2007). Despite this, literature showed that elderly parents are more satisfied with their lives than the childless (Albertini and Arpino 2018), although the relationship varies across social contexts (Dykstra and Wagner 2007; Hansen et al. 2009).

2.2   Age-related dynamics

Dynamics of life satisfaction in the old age is a disputed topic. Part of research demonstrated a U-shaped trajectory, with life satisfaction reaching the lifetime minimum between the ages of 35 and 50, and increasing afterwards (Blanchflower and Oswald 2008). Other studies showed a pattern of increasing life satisfaction at the entry to old age (around the age of 60, see Frijters and Beatton 2012) followed by a decline at more advanced age (after the age of 75 according to Frijters and Beatton 2012; after the age of 65 according to Chen 2001 and Gwozdz and Sousa-Poza 2010). Still other studies documented stability of life satisfaction during old age (Gwozdz and Sousa-Poza 2010; Kunzmann et al. 2000; McAdams et al. 2012; Von Dem Knesebeck et al. 2007), a decline limited to women (Chipperfield and Havens 2001), or a decline limited to a few years preceding respondent's own death (Gerstorf et al. 2008).

It is an open question whether the relative advantage or disadvantage related to family situation remains stable, increases, or declines as people get older. Inequality literature proposed two alternative hypotheses: *cumulative (dis)advantage hypothesis*, which postulates that inequalities intensify with age, and *age-as-leveler hypothesis*, according to which inequalities among groups reduce with age (Ferraro and Wilkinson 2013). Below, I discuss them in more detail.

2.2.1   Cumulative (dis)advantage hypothesis

The *cumulative (dis)advantage hypothesis* postulates that the positive influence of (economic, social, or other) resources on life satisfaction accumulates from an early age throughout the life course (Dannefer 2003). As a result of longer accumulation period, the differences among groups tend to be greater during old age than during young age. This idea has been originally proposed by Merton (1968) as so-called "Matthew effect" to explain the increasing inequalities in academic success among scholars, but it has been used ever since to explore various topics, such as income

inequality and employment (e. g., Pavlova and Silbereisen 2012). Consistently with cumulative (dis)advantage mechanism, research showed that health differences across educational and income groups intensify with age (Kim and Durden 2007), and that life satisfaction differences between employed and unemployed are greater at older ages than at younger ages (Pavlova and Silbereisen 2012).

Marriage, especially a long lasting marriage, and parenthood, which in principle is a long-term relationship, provide elderly with various types of resources. Married people have typically greater economic resources and are at a lower risk of poverty (Killewald 2013), whereas both marriage and parenthood may be sources of (emotional and instrumental) support and psychological benefits (Musick and Bumpass 2012). Indisputably, economic advantage, and social and psychological resources apply not only to marriage but also to non-marital partnerships. However, marriage may be particularly beneficial due to typically long-term character of the arrangement, higher on average quality of relationship (Umberson et al. 2006), and connection with a network of kin (Musick and Bumpass 2012).

Cumulative (dis)advantage hypothesis implies that resources are increasingly strong determinants of life satisfaction as people get older. This leads to the first hypothesis to be tested in current analysis, namely that life satisfaction advantage related to marriage and parenthood increases with age. In other words, I expect that the groups disadvantaged in terms of life satisfaction, such as, plausibly, the previously married and the childless, experience faster decline of life satisfaction with age than other groups.

2.2.2 *Age-as-leveler hypothesis*

The *age-as-leveler hypothesis* conceptualizes old age as a period of biological frailty, when everybody faces similar challenges related mainly to loss of health and perspective of own death. For this reason, at advanced old age resources (social, economic, or others) lose their importance as predictors of life satisfaction (Kim and Durden 2007). In part, the leveling related to ageing is caused also by selective mortality, which is higher among people with poorer health and with lower life satisfaction (e. g., Koivumaa-Honkanen et al. 2000).

Supporting the idea of levelling effect of ageing, research on "happiness equation" showed that own health becomes an increasingly important predictor of life satisfaction as people get older, and that variance of quality of life reduces with age (Motel-Klingebiel et al. 2004). In general, the age-as-leveler hypothesis found considerable support in research on educational differences in health (Dupre 2007), but it has not yet been verified for differences related to family situation.

Relevant for the age-as-leveler hypothesis is the distinction between third and fourth age, or between the "young old" and "oldest old". The age boundary between these two groups depends on social context, but usually it is marked at the age of 75, 80, or 85 years (Neugarten 1974; Smith and Ryan 2016). The young old reap

the benefits of extending life expectancy. They are young enough to enjoy good health, tend to be affluent, well educated, and satisfied with their lives (Baltes and Smith 2003; Neugarten 1974). In terms of family situation, they are predominantly still married and living with a spouse, with children moving out of parental household. In contrast to that, the experience of the oldest old is marked by fragility, vulnerability, and unpredictability (Baltes and Smith 2003). This is the group who experiences transitions to widowhood more often, suffers from health decline, and is at increased risk of poverty.

As age-as-leveler hypothesis refers to frailty and poor health, it should affect life satisfaction of the oldest old, but not of the young old. This leads to the second hypothesis tested in the current paper: among the oldest old, but not among the young old, life satisfaction differences related to family situation reduce due to increasing frailty and health problems. In other words, groups disadvantaged in terms of life satisfaction experience slower erosion of life satisfaction, leading to (at least partial) catching up.

2.3   Gender differences

Roles of men and women within marriage are different, especially in older cohorts. It is therefore not surprising that marital status and its changes affect men and women differently (Chipperfield and Havens 2001). First, although in the cohorts born at the beginning of the twentieth century childlessness was related to economic disadvantage, in younger cohorts women who did not form a family of their own tend to be a privileged group. They stand out with higher education, better financial situation, and higher social activity (e. g. doing more volunteer work) than otherwise comparable wives and mothers (Cwikel et al. 2006; Dykstra 2009; Dykstra and Hagestad 2016). A similar pattern does not show up among men. Second, parenthood seems more important for women's than men's life satisfaction, as childless women are consistently less satisfied with their lives than mothers (Hansen et al. 2009). Third, marital status seems to play a greater role for men's life satisfaction than for women's: men's life satisfaction reduces more upon losing a spouse, and it increases more in case of re-marriage (Berg et al. 2006; Chipperfield and Havens 2001).

Conceptual approaches proposed so far do not lead to clear predictions on gender differences of old age dynamics of life satisfaction. Nonetheless, gender seems a potentially important factor. For this reason, I analyse life satisfaction of men and women separately to explore gender differences in old age dynamics of life satisfaction.

2.4   Context of Switzerland

Switzerland is an example of an ageing society, where high life expectancy and low birth rates put a pressure on the welfare system (Gabriel et al. 2015). Nonetheless, Switzerland not only enjoys one of the highest levels of life satisfaction among OECD countries (OECD 2019) but also it has been designated as the best place

in the world to grow old (2015 Global AgeWatch Index, see Barry et al. 2015). Good economic conditions definitely contribute to that; consistently, poverty rates among Swiss elderly are relatively low (10%-20% according to Gabriel et al. 2015).

The statutory retirement age in Switzerland is 64 years for women and 65 years for men, but earlier and later retirement is possible. In the Swiss Household Panel data, among women aged 63 only 30% are retired, 53% at the age of 64, and 68% at the age of 65. Respective percentages are similar among men (34% at the age of 64, 60% at the age of 65, and 73% at the age of 66). Almost all (i. e. over 95%) women are retired at the age of 73, and almost all men at the age of 77 years old. Transition to retirement is not a definitive end of working life, as 30% of all early retirees continue working after retirement (Dorn and Sousa-Poza 2005).

Patterns of family life in Switzerland may be considered traditional as far as births out of wedlock are concerned (Le Goff and Ryser 2010). However, the rate of childlessness is among the highest in the world, reaching the value of about 20% women in the youngest cohorts (Sobotka 2017). In current study sample, 13% of men and 14-16% of women declared not having any children. Acceptance of childlessness in Switzerland is relatively high, and old-age dependence on children's help is an exception rather than the rule. Frail elderly people in Switzerland are rarely cared for by their adult children, and the share of "autonomous family type", comprising families where parents and adult children tend to live far away, have relatively little contact, and exchange relatively little support, is among the highest in Europe (42% of parents aged 50 or older, see: Dykstra and Fokkema 2011).

3 Data and methods

3.1 Data and sample

This analysis used data from the Swiss Household Panel (SHP), a panel study initiated in 1999, which monitors social change in the population of Switzerland. The survey started with a stratified random sample of private households whose members represented the noninstitutionalised resident population in Switzerland (Voorpostel et al. 2018). To compensate for attrition of the initial sample, refreshment samples were added in 2004 and 2013. SHP follows the respondents and their children, and (since 2007) also respondents' cohabiting partners who have left the original household, until death or institutionalisation (Voorpostel et al. 2018). Data are collected via telephone interviews, but since 2010 also face-to-face and web modes have been offered to reluctant respondents. At the moment of writing this paper, 18 waves of SHP are available (1999–2017). However, data on life satisfaction have not been recorded in 1999, which limited the analysis to a maximum of 17 waves of observations.

In order to account for dynamics of life satisfaction both among the young old and oldest old, I estimated models for two separate subsamples of men and women: those aged 60–74 and those aged 75–89. The first subsample (called subsequently "younger cohort") comprised people who have been observed at least once at the age of 60–64, and remained in the panel for at least 5 waves. The second subsample ("older cohort") comprised people who were observed at least once at the age of 75–79 years, and stayed in the panel for a minimum of 5 waves. In the analytical sample, the younger cohort comprised 723 men and 919 women (6083 and 7921 observations, respectively) and the older cohort comprised 255 men and 386 women (2021 and 3043 observations, respectively).

As challenges and potential gains related to family roles are typically different for men and women, I estimated separate models for men and women. Additional estimates, shown in Appendix A, tested the statistical significance of gender differences.

3.2 Analytical approach

This analysis focused on the dynamics of life satisfaction during old age. This called for a within-subject setup, such as fixed effects models. However, to understand the meaning of the changes occurring over time, the analysis must also account for the differences among groups at the beginning of the observation period. For this reason, current analysis relied on two types of models to study the relationship between family situation and dynamics of life satisfaction.

First, I used regular OLS regression to describe differences in life satisfaction among groups defined by their marital and parenthood status. I run this analysis on a sample containing only the initial observation for each respondent whom I subsequently included in the fixed effects analysis, i.e. on a sample of 60–64 year olds in case of the younger cohort and on a sample of 75–79 years olds in case of the older cohort.

Second, I used regression with individual fixed intercepts in order to study how life satisfaction changed as people got older, and whether the dynamics varied according to marital and parenthood status. Fixed effects regression controls for all observed and unobserved time-invariant differences among people, including personality traits, genetic factors, etc. (Allison, 2009), and models only the within-subject changes of the dependent variable.

3.3 Variables

The dependent variable was self-reported general satisfaction with life, measured on a scale from 0 to 10. In the SHP life satisfaction was assessed with the question "In general, how satisfied are you with your life if 0 means 'not at all satisfied' and 10 means 'completely satisfied'?". The variable approximated a normal distribution, was negatively skewed, and peaked at the value of 8, which was both its overall mean and the median.

Table 1   Descriptive statistics of variables included in the analysis of life satisfaction

	Men					Women				
	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
Younger cohort (aged 60–74)										
Time-varying variables (N: number of observations)										
life satisfaction	8.21	1.35	0	10	6077	8.13	1.50	0	10	7916
age in the year of interview	65.35	3.69	60	74	6077	65.45	3.73	60	74	7916
retired	56.1%		0	1	6077	56.6%		0	1	7916
married → widowed	1.0%		0	1	6077	3.0%		0	1	7916
married → divorced	0.5%		0	1	6077	1.0%		0	1	7916
divorced → married	0.5%		0	1	6077	0.3%		0	1	7916
widowed → married	0.5%		0	1	6077	0.3%		0	1	7916
never married → married	0.2%		0	1	6077	0.1%		0	1	7916
forming a partnership	0.04	0.23	0	3	6077	0.05	0.27	0	4	7916
dissolution of a partnership	0.04	0.24	0	3	6077	0.05	0.26	0	4	7916
Time-constant variables (N: number of individuals)										
married at 60/64	82.1%		0	1	722	68.5%		0	1	918
divorced or separated at 60/64	11.4%		0	1	722	16.9%		0	1	918
widowed at 60/64	2.1%		0	1	722	8.1%		0	1	918
never married at 60/64	4.4%		0	1	722	6.5%		0	1	918
unmarried and partnered at 60/64	10.3%		0	1	722	8.6%		0	1	918
childless	13.3%		0	1	722	14.3%		0	1	918
lower education	51.5%		0	1	722	72.8%		0	1	918

Continuation of table 1.

	Men					Women				
	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
Older cohort (aged 75–89)										
Time-varying variables (N: number of observations)										
life satisfaction	8.30	1.43	0	10	2017	8.11	1.63	0	10	3040
age in the year of interview	79.53	3.21	75	89	2017	79.71	3.35	75	89	3040
retired	98.5%		0	1	2017	98.1%		0	1	3040
married → widowed	1.7%		0	1	2017	7.9%		0	1	3040
married → divorced	0.2%		0	1	2017	0.1%		0	1	3040
never married → married	0.6%		0	1	2017	--		0	0	3040
forming a partnership	0.06	0.31	0	3	2017	0.03	0.20	0	3	3040
dissolution of a partnership	0.06	0.29	0	3	2017	0.04	0.25	0	3	3040
Time-constant variables (N: number of individuals)										
married at 75/79	78.4%		0	1	254	44.5%		0	1	384
divorced or separated at 75/79	8.7%		0	1	254	9.4%		0	1	384
widowed at 75/79	9.1%		0	1	254	37.8%		0	1	384
never married at 75/79	3.9%		0	1	254	8.3%		0	1	384
unmarried and partnered at 75/79	7.9%		0	1	254	5.5%		0	1	384
childless	12.6%		0	1	254	15.6%		0	1	384
lower education	50.8%		0	1	254	75.5%		0	1	384

Source: Swiss Household Panel, 1999–2017.
Note: for dichotomous variables the table presents percentages.

The OLS regression analysis aimed to describe the differences among men and women in various family situations. Accordingly, the main predictors were variables coding marital and parenthood status at the moment of the first observation. As parenthood and marital histories are closely interwoven (e.g. marriage is a strong predictor of parenthood), and the effects of marital and partnership status are typically not additive, I considered the effects of parenthood and marital status jointly, by including interaction terms. I also accounted for partnership status of unmarried respondents: the dichotomous variable coded as one people who had a partner, either cohabiting or not, and as zero it coded unpartnered persons. The control variables in the OLS model included education (primary vs. secondary of tertiary) and retirement status.[1]

The fixed effects analysis focused on age-related dynamics of life satisfaction among people in various family situations. Therefore, the main predictor was age, together with the interactions between age and the initial family situation (initial, i.e. recorded during the first interview for a given respondent at the age of 60–64 or 75–79). I also controlled for changes of marital status and partnership status experienced during the observation period, as well as the transition to retirement.[2] All variables used in the analysis are summarized in Table 1. As shown in the table, marital transitions were relatively rare in the studied sample. For example, the transition from marriage to widowhood was the most common type of transition among women in the younger cohort, and it was recorded only in 3% of observations. In the older cohort it raised to 8% of observations. Despite the rare character of these transitions, they are potentially powerful predictors of life satisfaction shifts.

4   Results

Table 2 shows the results of OLS regression of life satisfaction at the beginning of the observation period. In general, life satisfaction differed according to marital status. Married (the reference category) stood out as the most satisfied group among the parents. Divorced and widowed parents were less satisfied with their lives than the married; the difference was statistically significant in the younger cohort, and – in case of divorced – also among men in the older cohort. Moreover, never married mothers declared lower life satisfaction than married mothers, but, again, the difference was statistically significant only in the younger cohort. Among unmarried respondents, the partnered were more satisfied with their lives than the unpartnered, and the difference was statistically significant only in the younger cohort.

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[1]   In Switzerland it is possible to combine retirement with employment, therefore as the transition to retirement I consider the first such transition declared by a respondent.

[2]   Formation and dissolution of a partnership is expressed as a count. Each respondent, at the beginning of observation, starts with a count of zero. The count increases by one at each partnership being formed or dissolved.

Table 2   Life satisfaction at the beginning of observation period as a
                 function of family situation. OLS models

	Men				Women			
	Age 60/64		Age 75/79		Age 60/64		Age 75/79	
	FE		SD		FD		SD	
divorced (ref: married)	−0.88***	(0.24)	−0.74*	(0.33)	−1.20***	(0.16)	−0.29	(0.34)
widowed (ref: married)	−1.65***	(0.40)	−0.22	(0.36)	−0.86***	(0.20)	−0.14	(0.21)
never married (ref: married)	−0.35	(1.03)	−0.05	(1.42)	−2.35***	(0.52)	−0.35	(1.76)
unmarried and partnered (ref: unpartnered)	0.63*	(0.26)	0.54	(0.40)	1.04***	(0.20)	−0.57	(0.40)
childless	0.19	(0.21)	0.39	(0.35)	0.01	(0.22)	0.08	(0.60)
divorced × childless	0.45	(0.45)	−0.71	(1.46)	0.25	(0.44)	0.72	(1.10)
widowed × childless	2.72	(1.49)	−0.06	(0.77)	−0.84	(0.65)	−0.50	(0.76)
never married × childless	−0.74	(1.06)	−0.82	(1.49)	1.18	(0.60)	0.26	(1.88)
retired	0.29*	(0.14)	−0.21	(0.62)	0.40**	(0.13)	0.24	(0.50)
lower education	−0.22*	(0.11)	−0.05	(0.18)	0.04	(0.11)	−0.14	(0.21)
intercept	8.33***	(0.08)	8.72***	(0.61)	8.39***	(0.11)	8.11***	(0.51)
N	722		254		918		384	

Source: Swiss Household Panel, 1999–2017.

Childlessness, on the other hand, did not correlate (statistically significantly) with life satisfaction. Childless people did not differ in their life satisfaction from parents neither among the married (see the main effect of childlessness) nor among divorced, widowed, or never married people (see the interaction terms).

To verify the cumulative (dis)advantage and age-as-leveler hypotheses let's inspect the results of fixed effects analysis (see Table 3). The age coefficients inform how much life satisfaction of married parents (who are the reference group) changed as people were getting older. All the age coefficients were negative, but they did not reach statistical significance. The predicted tempo of decline was rather small: about 0.02 points on a scale from 0 to 10 yearly. At this rate reducing life satisfaction by 1 point would require about 50 years.

The first hypothesis, which referred to the cumulative (dis)advantage mechanism, postulated that the initial differences in life satisfaction increase with age. OLS results showed that in the younger cohort the most satisfied group were married parents, thus, if the hypothesis holds, this group should have more positive trajectories of life satisfaction than other groups. In other words, life satisfaction of divorced, married, or never married should decline with age at a faster rate than life satisfaction of the married.

Relevant for testing this hypothesis are the interaction terms between marital status and age. Contrary to the predictions of the cumulative (dis)advantage hypothesis, divorced, widowed, and never married did not have more negative trajectories of life satisfaction than the married. Even more, life satisfaction trajectories of divorced

and never married mothers in younger cohort and divorced childless men in older cohort were *more positive* than those of the married.

In the OLS analysis, the least satisfied group were never married mothers; this result was statistically significant only in the younger cohort. Fixed effects analysis showed that in the older cohort life satisfaction of never married mothers declined at a significantly faster rate than life satisfaction of married mothers. This suggests that never married mothers experienced both low initial life satisfaction and a disproportionally fast decline of life satisfaction. Such pattern is in principle consistent with the cumulative advantage hypothesis. However, the support for the hypothesis is only partial, because these two patterns were observed in different cohorts, and in none of the cohorts both patterns showed up.

The second, age-as-leveler hypothesis postulated that old age is a period of reducing inequalities. This implies that people in family situations associated with highest life satisfaction should experience a relatively faster decline of life satisfaction with age. On the other hand, in groups less satisfied with their lives during midlife, life satisfaction should decline at a slower rate. The hypothesis postulated that the main factors which reduce inequalities are health decline and frailty occurring in advanced old age; for this reason I expected to find these patterns mainly in the older cohort.

The results partially support the age-as-leveler hypothesis for divorced men only. In the OLS analysis, life satisfaction of divorced men in older cohort was lower than life satisfaction of married men. Fixed effects analysis showed that life satisfaction of divorced childless men in the older cohort increased disproportionally fast. However, the support for age-as-leveler hypothesis was only partial, because the fast increase occurred only for the childless, and not for all divorced men.

Results showed in Table 3 also inform that being in a partnership did not affect life satisfaction trajectories during old age. All the coefficients "in nonmarital partnership × age" were statistically not significant. Also lower educated people did not differ in their life satisfaction trajectories from people with secondary or tertiary education.

Consistently with the literature, formation of a partnership correlated with an increase in life satisfaction, whereas a dissolution correlated with a decline of life satisfaction. However, the results were statistically significant only in the younger cohort. The effects of marital transitions were less clear-cut. Transitions to widowhood and divorce correlated with reduction of life satisfaction, but not among women in the older cohort. Similarly, the old-age transitions into marriage did not have a consistently positive effect.

Coefficients for marital transitions allow investigating the protective role of parenthood. The first interesting result pertains to men who experienced a transition to widowhood. The negative effect of this transition was stronger among childless men than among fathers. This result is consistent with past evidence showing that

Table 3   Changes of life satisfaction during old age. Fixed effects models

| | Men | | | | Women | | | |
| | Younger cohort Age 60–74 | | Older cohort Age 75–89 | | Younger cohort Age 60–74 | | Older cohort Age 75–89 | |
	FD	SD	FD	SD	FD	SD	FD	SD
age	−0.02	(0.01)	−0.03	(0.01)	−0.02	(0.01)	−0.01	(0.02)
divorced × age	0.03	(0.03)	0.02	(0.05)	0.06***	(0.02)	0.01	(0.03)
widowed × age	0.03	(0.04)	0.04	(0.05)	0.00	(0.02)	0.02	(0.02)
never married × age	−0.03	(0.06)	−0.03	(0.01)	0.16*	(0.07)	−0.66***	(0.11)
in nonmarital partnership × age	−0.03	(0.03)	−0.04	(0.03)	−0.03	(0.02)	−0.00	(0.04)
childless × age	0.00	(0.02)	−0.04	(0.04)	−0.01	(0.02)	−0.04	(0.04)
divorced × childless × age	0.07	(0.06)	0.39***	(0.06)	−0.01	(0.03)	−0.12	(0.12)
widowed × childless × age	0.08	(0.05)	0.00	(0.07)	0.17	(0.09)	−0.03	(0.06)
never married × childless × age	0.10	(0.05)	0.01	(0.06)	−0.12	(0.08)	0.70***	(0.11)
married → widowed	−0.16	(0.31)	−0.26	(0.28)	−0.41	(0.21)	−0.00	(0.15)
married → widowed × childless	−2.12***	(0.33)	−1.07**	(0.36)	0.87	(0.55)	−0.15	(0.35)
married → divorced	−0.18	(0.61)	−1.33***	(0.09)	−0.35	(0.24)	0.69***	(0.04)
married → divorced × childless	−0.21	(0.58)	–	–	2.26***	(0.26)	–	–
divorced → married	−0.22	(0.32)	–	–	−0.26	(0.28)	–	–
divorced → married × childless	1.41***	(0.33)	–	–	−0.64*	(0.29)	–	–
never married → married	−0.21	(0.18)	0.69***	(0.00)	0.13	(0.17)	–	–
formation of non-marital partnership	0.65**	(0.22)	0.10	(0.23)	0.73***	(0.17)	0.44	(0.59)
dissolution of non-marital partnership	−0.52*	(0.23)	−0.28	(0.25)	−0.71***	(0.17)	−0.10	(0.40)
lower education × age	−0.01	(0.01)	0.01	(0.02)	−0.01	(0.01)	−0.01	(0.02)
transition into retirement	0.10	(0.05)	0.10	(0.40)	−0.01	(0.04)	−0.19	(0.32)
intercept	8.23***	(0.03)	8.34***	(0.40)	8.20***	(0.03)	8.32***	(0.31)
N	6077		2017		7916		3040	
Nr of individuals	723		255		919		386	

Source: Swiss Household Panel, 1999–2017.

Figure 1   Predicted life satisfaction and its changes: differences related
                  to marital status
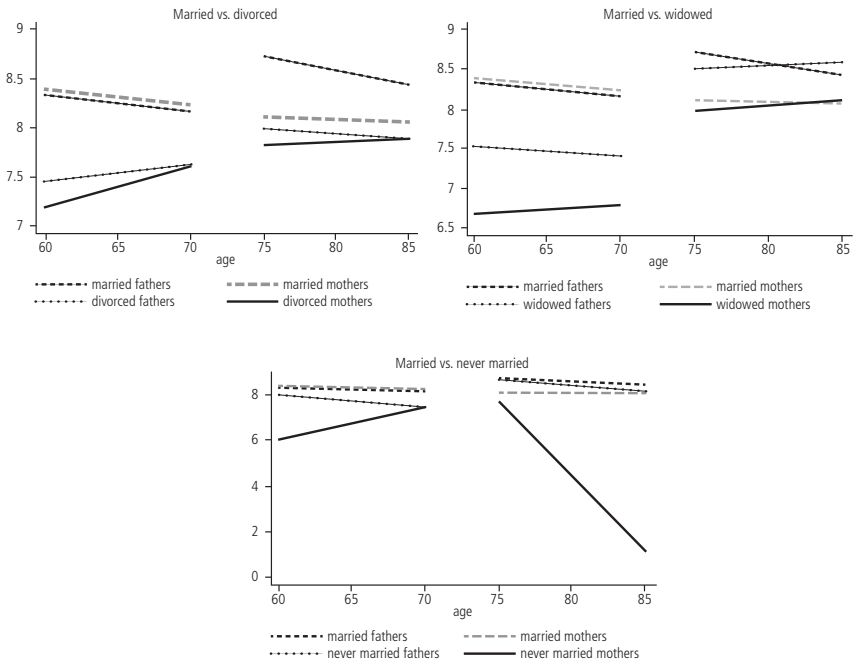
Source: Swiss Household Panel, 1999-2017 Note: The predictions combine the results obtained in the OLS models (Table 2)
and in fixed effects models (Table 3.)

widowed men strongly depend on their adult children, and suggests that parenthood
has a protective (buffering) effect during the transition to widowhood; however,
it also suggests that this protection is limited to men. In contrast to that, divorce
correlated with more positive shifts of life satisfaction among childless women
than among mothers. This suggests that the protective effect of parenthood is not
a general pattern, and that during divorce parenthood may be an additional source
of stress rather than a resource.

    Figures 1 and 2 provide a graphic representation of the results obtained in OLS
and fixed effects analysis. Figure 1 shows how differences in life satisfaction related
to marital status changed with age. The life satisfaction gap between divorced and
married parents, and between widowed and married parents reduced with age, both
among men and women, and in the younger and older cohort. In contrast to that,
life satisfaction of never married parents, with the exception of never married mothers
in the younger cohort, declined at a faster rate than among the married.

Figure 2   Predicted life satisfaction and its changes: differences related to
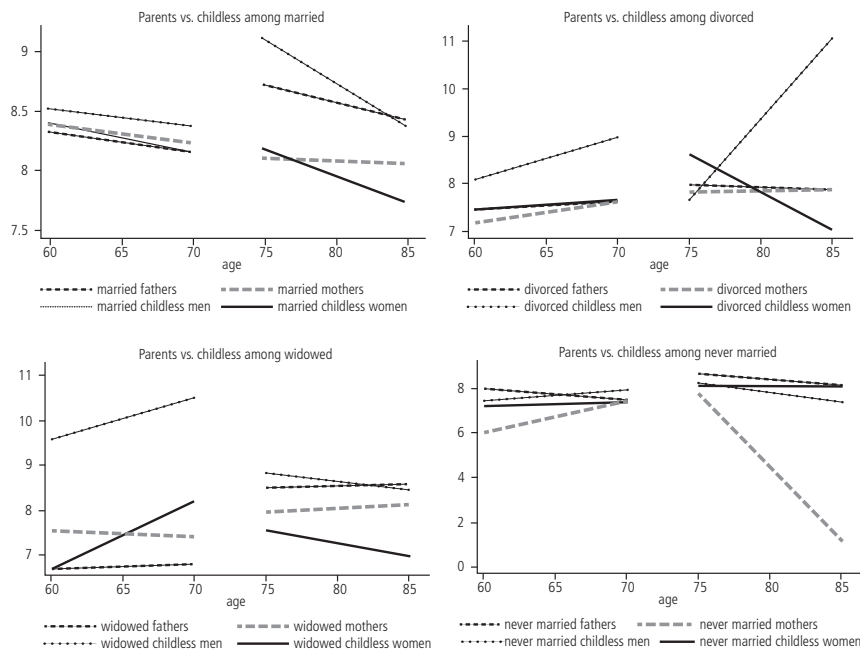   marital status

Source: Swiss Household Panel, 1999-2017 Note: The predictions combine the results obtained in the OLS models (Table 2)
and in fixed effects models (Table 3.)

Figure 2 shows how childlessness affected life satisfaction trajectories of men and
women in various marital statuses. An interesting pattern emerged for initially mar-
ried respondents: in the older cohort, childless spouses experienced a visibly faster
decline of life satisfaction than parents did. However, an inspection of results in
Table 3 informs that the relevant coefficients ("childless × age") were not statistically
significant. Also among the widowed the pattern was interesting. In the younger
cohort, the life satisfaction trajectories of childless widowed persons were more
positive than those of widowed parents. In contrast to that, in the older cohort
life satisfaction trajectories of childless widowed persons were more negative than
those of widowed parents. Summing up, childlessness among married and widowed
persons negatively affected life satisfaction trajectories at more advanced old age.
Such a pattern is not consistent with any of the hypotheses, but it suggests that
parenthood protects life satisfaction in particular at advanced old age (in present
analysis: after the age of 75).

Among the divorced, the pattern was less clear. Childlessness correlated with more positive life satisfaction trajectories among divorced men, but with more negative life satisfaction trajectories among divorced women. This result may reflect gender difference in how divorce affects men's and women's relationships with children; in particular, it suggests that relationships with children may be an additional complication for elderly divorced men.

Finally, the predictions in Figure 2 for never married parents and never married childless people are dominated by the tremendous decline of life satisfaction experienced by never married mothers in the older cohort. This result suggests that never married mothers are a particularly disadvantaged group among the elderly.

Although the literature mentions gender differences in how family situation affects life satisfaction, current results showed an unclear pattern of gender differences and few statistically significant differences between men and women. The detailed table of results is shown in the Appendix in Table A4 (for the OLS analysis) and Table A5 for the fixed effects analysis.

The difference between men and women in the importance of parenthood, marital status or childlessness for life satisfaction and its changes was not systematic. The differences that did occur pertained to the effect of childlessness among divorced, widowed, and never married people. This suggests that, despite the gendered character of marriage, childlessness has different consequences among men and women not in marriage but rather outside of it.

5   Discussion

This paper studied the population of elderly people in Switzerland in order to better understand how the effect of family situation for life satisfaction changes during old age. I defined family situation by respondent's marital and parenthood status, and accounted for partnership status of unmarried respondents. The analysis tested whether unmarried and childless respondents were less satisfied with their lives than married people and parents, and whether the differences intensified or attenuated with age.

The results showed that in the cohort of people aged 60–64 years old, married persons were indeed more satisfied with their lives than singles, including never married, divorced, and widowed persons. However, the differences in the older cohort (75–79 years old) were statistically not significant. The result for the younger cohort is consistent with previous literature, which documented life satisfaction advantage of married people over the unmarried (e. g., Bures et al. 2009; Koropeckyj-Cox 1998). In contrast to marital status, childlessness did not systematically correlate with life satisfaction. This lack of differences is at odds with some past studies (e. g., Albertini and Arpino 2018) but may be explained by the cross-country variation of this relationship (Dykstra and Wagner 2007; Hansen et al. 2009).

To understand whether the differences related to family situation intensify or reduce with age, I analysed within-individual changes of life satisfaction. Life satisfaction among married parents (who were the reference category in the analysis) has been declining slightly with age. Such result is at odds with studies showing clear pattern of age trajectories of life satisfaction (e. g., Blanchflower and Oswald 2008). The baseline rate of decline in current analysis did not differ systematically with gender nor education, but it was shaped by life course transitions. This suggests that, at least in the studied social context, life satisfaction trajectories are shaped by the events that people experience, rather than by their underlying characteristics.

I tested two competing hypotheses. The first one, *cumulative (dis)advantage* hypothesis postulated that, due to longer exposure to advantageous conditions, the differences among groups intensify with age (Dannefer 2003). In current analysis, the group experiencing most "advantageous conditions" were the married parents, judging from their initial life satisfaction at the age of 60–64 years old. On the other hand, the group with lowest life satisfaction at the same ages were the never married mothers.

The hypothesis predicted that life satisfaction trajectories of married parents should be more positive than life satisfaction of the divorced, widowed, or never married. However, the results did not show this pattern. On the contrary, life satis-faction of some subgroups of unmarried respondents increased at a faster rate than life satisfaction of the married. This result suggests that the life satisfaction advan-tage of married parents over other groups does not result from a causal mechanism (which could continue shaping life satisfaction during an old age thus increasing the advantage of this group) but it is either created during mid-life (e. g. due to lower on average stress levels) or results from selection on background characteristics. In other words, the result suggests that being married and having children at older age in Switzerland is not in itself beneficial for life satisfaction.

Partly consistent with the hypothesis of cumulative (dis)advantage was the pattern for never married mothers. This group initially stood out with low life sat-isfaction, and subsequently, after the age of 75, experienced a faster decline in life satisfaction than other groups. However, the support for the hypothesis was only partial because the initial life satisfaction disadvantage was observed in younger cohort only, whereas the faster rate of life satisfaction decline occurred only in the older cohort. In general, single parenthood is a difficult experience and single parents stand out with low life satisfaction (e. g., Meier et al. 2016). In this aspect, Switzerland is a rather conservative social context, therefore it is not surprising that elderly never married mothers declared lower life satisfaction and experienced its more rapid decline than other groups of women did. This might happen due to selection, i. e. because women less able to avoid non-marital childbearing likely suffered an underlying disadvantage (related to, e. g. personality traits, social back-ground, experience of abuse), but the effect might also be causal, i. e. due to social

exclusion and economic strains of single parenthood. All these factors might have contributed to a rapid decline in life satisfaction during an advanced old age among never married mothers, as observed in current analysis.

The second, *age-as-leveler* hypothesis stated that life satisfaction differences related to marital status reduce at advanced old age, because at this stage of life people experience frailty and health decline, and in the light of this experience other factors or resources lose their importance as determinants of life satisfaction. This hypothesis implied that advanced old age is a period of reducing inequalities, meaning that life satisfaction of initially advantaged groups should decline at a faster rate than life satisfaction of more disadvantaged groups.

The support for age-as-leveler hypothesis was only partial. First, in the younger cohort, life satisfaction of divorced mothers, who were disadvantaged already at the beginning of observation span, increased faster than life satisfaction of married mothers. However, this pattern showed up in the younger cohort only, whereas the hypothesis predicted that the leveling mechanism should play a role primarily at advanced old age. Second, life satisfaction of divorced childless men in older cohort increased faster than life satisfaction of married fathers; however, this "catching up" occurred only for childless divorced men, whereas all divorced men (fathers and childless alike) declared low life satisfaction at the beginning of observation span. The qualitative inspection of results (predictions shown in Figure 1) suggested that the life satisfaction gap between married and previously married people has been closing for both men and women, and both in younger and older cohorts. However, this general pattern did not reach statistical significance.

The fact that the leveling associated with ageing was statistically significant only in case of the gap between divorced and married respondents (and a similar pattern showed up for the gap between widowed and married), and that it was not limited to advanced old age, suggests that it was not shaped by ageing and emerging frailty but rather by adaptation to divorced (widowed) life. Upon divorce and widowhood, life satisfaction declines and then re-bounces (e. g., Frijters et al. 2011), which is interpreted as a sign of the psychological mechanism of adaptation. This mechanism might narrow down the life satisfaction gap between married and previously married respondents observed in the results.[3]

The results showed also interesting patterns which went beyond the tested hypotheses. First, the effects of marital transitions were less clear-cut than generally suggested by happiness literature (e. g., Frijters et al. 2011). Transitions to widowhood and divorce correlated with reduction of life satisfaction, but not among women in the older cohort. Similarly, the old-age transitions into marriage did not have consistently positive effect. A possible explanation of this pattern is the fact that

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3   It is possible that the results for widowhood did not reach statistical significance, because the negative life satisfaction consequences of death of a spouse last longer than in case of divorce, and strategies of re-building one's life, such as re-partnering are less available in part due to more advanced old age of widows than divorcees.

current analysis ignored the time which elapsed from the event, which may make a difference for these strongly time-dependent effects (Frijters et al. 2011).

The second interesting pattern pertained to non-marital partnerships. Partnership is a plausible source of social and economic resources, even if it is typically a shorter-term arrangement than marriage. In fact, partnered unmarried people were more satisfied with their lives than the unpartnered. Consistently, formation of a partnership correlated with an increase in life satisfaction, whereas a dissolution correlated with a life satisfaction decline.[4] Finally, being in a partnership did not affect life satisfaction trajectories occurring with age, whereas marital status had such an affect, suggesting that the long-term effect of marriage may play a role.

As mentioned above, childlessness made little systematic difference for life satisfaction and its dynamics. However, in some groups parents clearly differed from childless persons. In particular, elderly men who became widowers experienced a greater loss of life satisfaction if they were also childless. Additionally, childless married and divorced respondents in the older cohort experienced a more rapid decline of life satisfaction than parents did. In contrast to that, the patterns among divorced people were less consistent, and childless women going through divorce experienced more positive shifts of life satisfaction than mothers going through a divorce.

This result suggests that even if parenthood has no direct effect on life satisfaction of elderly people, in some instances it has a protective buffering effect. This type of protection applies to married and widowed people, and is most visible among men entering widowhood. Switzerland stands among European countries with relatively low contact and support exchange between adult children and their elderly parents; this suggests that the buffering effect of parenthood and its effect on life satisfaction in other countries may be stronger. On the other hand, the buffering effect of parenthood did not extend to divorcing elderly people, suggesting that, instead of having a buffering effect, parenthood complicates the divorce experience even for spouses with adult children.

In general, current analysis revealed a considerable difference between people belonging to the younger and older cohort. In particular, very few factors consistently differentiated life satisfaction in the older cohort. This may reflect smaller sample size and lower power of statistical models in the analysis of the older cohort. However, the lower predictive power of models is also consistent with the idea of leveling effect of age. On the other hand, age-as-leveler mechanism also postulated that variation of life satisfaction in the older cohort should be smaller than in the younger cohort. The characteristics of the sample used in this analysis do not confirm that (as shown in Table 1 with descriptive statistics). It seems that in current analysis the life satisfaction differences among people aged 75–89 were considerable, but the statistical models were not able to explain them.

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4   These results were statistically significant in the younger cohort only.

Current analysis explored also the differences between men and women. Gender seems a potentially important factor moderating the relationship between family situation and life satisfaction in Switzerland. Despite the relatively traditional gender roles, the results showed that marriage and parenthood affected life satisfaction of men and women in a similar fashion. The few gender differences recorded by this study reflected the relative disadvantage of never married mothers, and the greater salience of buffering effect of parenthood among men than among women.

This study has limitations. First, the SHP data did not allow a full picture of old-age life satisfaction changes, as the respondents in the analysed sample were observed on average for 10 years (between 5 and 14 years of observations). Such time span constitutes a relatively small fraction of old age in a developed ageing society as Switzerland. Similarly, current study did not include the worse functioning respondents, as only those living in individual households were included in the sample. Institutionalization, which frequently accompanies old age health decline, was one of the factors excluding respondents from the sample. Another limitation is that current analysis did not inspect mechanisms mediating the relationship between family situation and life satisfaction. Investigating the role of potentially important factors, such as social support, economic well-being, or health, is an interesting area for future studies.

Available results support the following conclusions. First, neither cumulative (dis)advantage hypothesis, nor age-as-leveler mechanism accurately describe how the importance of family situation for life satisfaction changes when people progress into advanced old age. Although some results of this analysis were consistent with the postulated patterns, the hypotheses do not seem to capture the core of the old age dynamics of life satisfaction. In contrast to that, buffering effect of parenthood and psychological adaptation after divorce or widowhood seem to capture more accurately the processes affecting life satisfaction during old age. The second conclusion is that life satisfaction of young old is better predicted by statistical models than life satisfaction of the oldest old. Further studies of this difference might address, among others, the issue of quality of data collected from oldest respondents. Finally, in practical terms, current analysis points to a particularly disadvantaged group of elderly, which has remained largely unnoticed by the happiness literature: never married mothers. Exploring specificity of this groups may be an interesting avenue for further research.

The take-home message from this research is that growing instability of marriages and increasing population of elderly without close kin does not pose a considerable threat for life satisfaction of elderly people in relatively wealthy countries which offer welfare support. The often implicit assumption that lack of close family is particularly painful and troublesome for elderly persons did not find consistent support in current analysis.

6   References

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7   Appendix: statistical significance of gender differences

Table A4   Life satisfaction at the beginning of observation period as a function
                    of family situation. OLS models with gender interaction terms

	Age 60/64	Age 75/79
woman	0.06	−0.61
	(0.14)	(0.86)
divorced at 60–64yo/75–79yo (ref: married)	−0.88***	−0.74
	(0.25)	(0.39)
divorced at 60–64yo/75–79yo × woman	−0.32	0.44
	(0.30)	(0.50)
widowed at 60–64yo/75–79yo (ref: married)	−1.65***	0.22
	(0.42)	(0.43)
widowed at 60–64yo/75–79yo × woman	0.79	0.07
	(0.46)	(0.47)
never married at 60–64yo/75–79yo (ref: married)	−0.35	−0.05
	(1.09)	(1.68)
never married at 60–64yo/75–79yo × woman	−2.00	−0.30
	(1.20)	(2.33)
unmarried and partnered (ref: unpartnered)	0.63*	0.54
	(0.27)	(0.47)
unmarried and partnered × woman	0.41	−1.11
	(0.34)	(0.60)
childless	0.19	0.39
	(0.22)	(0.41)
childless × woman	−0.18	−0.31
	(0.31)	(0.69)
divorced at 60–64yo/75–79yo × childless	0.45	−0.71
	(0.47)	(1.73)
divorced at 60–64yo/75–79yo × childless × woman	−0.19	1.43
	(0.63)	(2.00)
widowed at 60–64yo/75–79yo × childless	2.72	−0.06
	(1.56)	(0.91)
widowed at 60–64yo/75–79yo × childless × woman	−3.56*	−0.44
	(1.68)	(1.14)
never married at 60–64yo/75–79yo × childless	−0.74	−0.82
	(1.12)	(1.76)
never married at 60–64yo/75–79yo × childless × woman	1.91	1.08
	(1.26)	(2.47)

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	Age 60/64	Age 75/79
retired	0.29*	−0.21
	(0.15)	(0.74)
retired × woman	0.10	0.45
	(0.20)	(0.87)
lower education	−0.22*	−0.05
	(0.11)	(0.21)
lower education × woman	0.26	−0.10
	(0.16)	(0.29)
intercept	8.33***	8.72***
	(0.09)	(0.72)
N	1640	638

Source: Swiss Household Panel, 1999–2017.

Table A5   Changes of life satisfaction during old age. Fixed effects models with gender interaction terms

	Age 60–74		Age 75–89	
age	−0.02	(0.01)	−0.03	(0.01)
age × woman	0.00	(0.01)	0.02	(0.02)
divorced at 60–64yo/75–79yo × age	0.03	(0.03)	0.02	(0.05)
divorced at 60–64yo/75–79yo × age × woman	0.02	(0.03)	−0.01	(0.06)
widowed at 60–64yo/75–79yo × age	0.03	(0.04)	0.04	(0.05)
widowed at 60–64yo/75–79yo × age × woman	−0.03	(0.05)	−0.02	(0.05)
never married at 60–64yo/75–79yo × age	−0.03	(0.05)	−0.03	(0.01)
never married at 60–64yo/75–79yo × age × woman	0.19*	(0.09)	−0.63***	(0.11)
in nonmarital partnership × age	−0.03	(0.03)	−0.04	(0.03)
in nonmarital partnership × age × woman	−0.01	(0.03)	0.04	(0.05)
childless × age	0.00	(0.02)	−0.04	(0.04)
childless × age × woman	−0.01	(0.03)	0.01	(0.06)
divorced at 60–64yo/75–79yo × childless × age	0.07	(0.06)	0.39***	(0.06)
divorced at 60–64yo/75–79yo × childless × age × woman	−0.08	(0.07)	−0.52***	(0.14)
widowed at 60–64yo/75–79yo × childless × age	0.08	(0.05)	0.00	(0.07)
widowed at 60–64yo/75–79yo × childless × age × woman	0.09	(0.11)	−0.03	(0.09)
never married at 60–64yo/75–79yo × childless × age	0.10	(0.05)	0.01	(0.06)
never married at 60–64yo/75–79yo × childless × age × woman	−0.22*	(0.10)	0.69***	(0.13)
married → widowed	−0.16	(0.31)	−0.26	(0.28)
married → widowed × childless	−2.12***	(0.33)	−1.07**	(0.36)
married → widowed × woman	−0.26	(0.37)	0.26	(0.32)
married → widowed × childless × woman	2.99***	(0.64)	0.91	(0.50)
married → divorced	−0.18	(0.61)	−1.33***	(0.09)
married → divorced × childless	−0.21	(0.58)	−	−
married → divorced × woman	−0.16	(0.66)	2.02***	(0.10)
married → divorced × childless × woman	2.46***	(0.64)	−	−
divorced → married	−0.22	(0.32)	−	−
divorced → married × childless	1.41***	(0.33)	−	−
divorced → married × woman	−0.04	(0.43)	−	−
divorced → married × childless × woman	−2.05***	(0.44)	−	−
never married → married	−0.21	(0.18)	0.69***	(0.00)
never married → married × woman	0.34	(0.25)	−	−
formation of non-marital partnership	0.65**	(0.22)	0.10	(0.23)
formation of non-marital partnership × woman	0.08	(0.28)	0.34	(0.63)
dissolution of non-marital partnership	−0.52*	(0.23)	−0.28	(0.25)
dissolution of non-marital partnership × woman	−0.19	(0.29)	0.18	(0.47)

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	Age 60–74		Age 75–89	
lower education × age	−0.01	(0.01)	0.01	(0.02)
lower education × age × woman	−0.00	(0.02)	−0.01	(0.03)
transition to retirement	0.10	(0.05)	0.10	(0.40)
transition to retirement × woman	−0.11	(0.07)	−0.29	(0.51)
intercept	8.22***	(0.02)	8.33***	(0.24)
N	13993		5057	
Nr of individuals	1642		641	

Source: Swiss Household Panel, 1999–2017.

The Effect of the Work-Life Interface on Insomnia: A Longitudinal Analysis of Male and Female Employees in Switzerland

Mario Lucchini* and Egidio Riva*

Abstract: This study draws on the Swiss Household Panel and employs specific panel data methods to investigate whether work-life conflict – decomposed into time-, and strain- based conflicts – and lack of recovery during off-job time (i. e. psychological detachment from work) cause insomnia. The findings indicate that, when adequately accounting for individual heterogeneity and the relative importance of multiple causal factors, recovery and recuperation processes appear crucial to the experience of insomnia, while the significance of perceived work-life conflict recede, for both men and women.

Keywords: work-life interface, insomnia, gender, structural path dependence

Les effets de la relation travail-vie personnelle sur l'insomnie : une analyse longitudinale des employées et employés en Suisse

Résumé : Cette étude s'appuie sur les résultats du Panel suisse de ménages et emploie des méthodes spécifiques pour l'analyse des données du panel pour déterminer si les conflits travail-vie personnelle – décomposés en conflits liés au temps ou à la pression professionnelle – et le (manque de) détachement psychologique du travail provoquent l'insomnie. Les résultats indiquent que, lorsque l'hétérogénéité individuelle et l'importance relative de facteurs multiples de causalité sont correctement pondérées, le processus de récupération émerge comme essentiel à l'expérience de l'insomnie et la tension perçue entre le travail et la vie personnelle s'atténue pour hommes et femmes.

Mots-clés : conciliation travail-vie personnelle, insomnie, le sexe, dépendance de trajectoire structurelle

Der Effekt der Work-Life Balance auf Schlaflosigkeit: eine Längsschnittanalyse von männlichen und weiblichen Angestellten in der Schweiz

Zusammenfassung: Die Studie basiert auf dem Schweizer Haushalt-Panel und verwendet spezielle Erhebungsmethoden um herauszufinden, ob der Konflikt von Arbeit und Privatleben – sich unterteilend in zeitliche und belastungsbedingte Konflikte – sowie der Mangel an psychologischer Distanz von der Arbeit Schwierigkeiten beim Einschlafen und Schlaflosigkeit hervorruft. Beurteilt man die individuellen Verschiedenheiten und relativen Bedeutungen verschiedener Faktoren lässt sich vermuten, dass Genesungs- und Erholungsprozesse von zentraler Bedeutung für die Erfahrung von Schlafstörungen sind, für Männer und Frauen.

Schlüsselwörter: Vereinbarkeit von Arbeit und Privatleben, Geschlecht, strukturelle Pfadabhängigkeit

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1   Introduction

Increasing attention has been paid to the potential effects of the work-life interface on health and well-being (for a review see, e. g., Allen et al. 2000; Frone 2003; Gisler et al. 2018; Greenhaus et al. 2006; Grzywacz 2016). In particular, a mounting body of evidence has linked difficulties in combining paid work, family, and other significant domains of life to sleep problems (Buxton et al. 2016; Crain et al. 2014; Lallukka et al. 2010; 2014; Sekine et al. 2006; Sonnentag et al. 2010).

Insomnia, which is generally defined as the difficulty initiating or maintaining sleep, is a prevalent concern in both the workforce and the general population (see, e. g. Magee et al. 2018; Ohayon 2002). It is caused by a wide range of factors, including genetic, psychological, environmental, social, and behavioural. Based on their role, these causal factors can be categorized as predisposing, precipitating or perpetuating (Spielman 1986). More in detail, according to the so-called 3P behavioural model (see also Spielman et al. 1987), anyone has a unique predisposition to insomnia, depending on specific biological, cognitive, and behavioural mechanisms, and insomnia generally occurs when such predisposition interacts with exposure to one or more precipitating factors. Precipitating factors comprise medical conditions, psychiatric disorders, stressful events, interpersonal conflicts and environmental variables (for a critical review of models of insomnia, see, e. g. Perlis et al. 2011). Once insomnia recurs, individuals may make (maladaptive) corrective behavioural and/or cognitive changes in trying to compensate for or cope with sleeplessness. For instance, they may extend bedtime in the evening or in the morning, practice non-sleep activities in the bedroom, stay in bed while awake at night. These are perpetuating factors that sustain rather than ameliorate sleep disturbance.

Within this heuristic framework, the experiences of the work-life interface can be viewed as precipitating factors that may trigger insomnia. Indeed, work and non-work domains may interfere with each other and eventually result in attitudes, psychological conditions and behaviours, which impact the ability to get enough sleep quantity and/or quality (Buxton et al. 2016; Crain et al. 2014; Lallukka et al. 2010; 2014; Sekine et al. 2006). In this respect, past research in the field has posited and empirically proved that resources, namely time and energy, are crucial factors linking the work-life interface and the sleep experience (for a review see, e. g. Crain et al. 2018). For instance, work-family conflict theory (Greenhaus and Beutell, 1985) proposes that, due to competing demands for workers' finite resources, negative spillover either from work to family or from family to work (such as lack of time and distress) may impede effective functioning in other life domains. Analogously, several studies have demonstrated that the psychological component of disconnecting mentally from work during off-job time (Etzion et al. 1998; Fritz and Sonnentag 2006) is quite relevant for health and well-being when individuals are threatened

with resource loss (e. g. Barnes et al. 2012; Berkman et al. 2015; Kalimo et al. 2000; Sonnentag 2001; Sonnentag et al. 2010).

Even if literature investigating the impact of the work-life interface on health outcomes, including sleep quality and quantity, has recently flourished, a few gaps still need to be filled. In this regard, Grzywacz (2016) has called for further research that could test alternative theoretical frameworks and hypotheses and advance methods. Indeed, the social and psychological mechanisms by which different experiences of the work-life interface affect health outcomes, including sleep, still need to be clarified (Edwards and Rothbard 2000). Competing hypotheses may be formulated based on different theoretical perspectives (Allen and Eby 2016; Shockley et al. 2018). Yet, to date, primary explanations of the reasons why the work-life interface may impair sleep rely on the strain hypothesis (i. e., combing different life domains is straining) and use the work-family conflict construct (Greenhaus and Beutell 1985). Therefore, domains other than work and family are generally overlooked and so is the explanatory power of different items. Besides, most available studies in the work-family literature have drawn on cross-sectional data (for a review see, e. g., Gisler et al. 2018). Hence, as Grzywacz (2016) underlined, these studies have failed to consider the time course of a specific health outcome as well as the progression of the condition. Therefore, they could not prove the existence or determine the magnitude of the causal effects of the work-life interface. Some longitudinal evidence on sleep problems has emerged (e. g., Berkman et al. 2015; Jacobsen et al. 2014; Vedaa et al. 2016). However, to the best of our knowledge, a large part of that specific literature has not considered the concurrent effect of baseline sleep problems (some notable exceptions are, for instance, Jacobsen et al. 2014; Lallukka et al. 2014; Moen et al. 2013) or has not fully accounted for key relevant biological and psychological determinants of sleep (Knutson 2013). Accordingly, the magnitude of the effect of the work-life interface on sleep disturbances is likely to be overstated.

Following Crain and colleagues (2018), who have contended that work and non-work affect sleep through underlying resource mechanisms (i. e. human energy and time), we use data of the Swiss Household panel (Wave 2004 to Wave 2016) and investigate whether the lack of psychological detachment from work (Etzion et al. 1998; Fritz and Sonnentag 2006) and work-life conflict (Greenhaus and Beutell 1985) cause insomnia. In particular, given the frame of reference adopted in this study and due to data availability, we restrained the focus of this study on two forms of work-life conflict: *i)* time-based conflict, which is experienced when time demands in one domain/role make it difficult to participate in another domain/role; *ii)* strain-based conflict, which arises when strain symptoms in one domain/role affect performance in another domain/role (Greenhaus and Beutell 1985). Current literature has indicated gender differences in the risk of developing insomnia (e. g., Knutson 2013; Ohayon 2002) and gender-specific effects of work-life interface on health, well-being, and sleep-related outcomes (e. g., Hammig and Bauer 2009;

Lallukka et al. 2010; Magee et al. 2018; Maume et al. 2010; Sekine et al. 2006). Accordingly, analyses are stratified by gender.

We believe that this article may contribute to the literature in the field as follows. Building on Grzywacz (2016), we designed a study that could test the power of the strain hypothesis relative to the psychological detachment hypothesis (Etzion et al. 1998; Fritz and Sonnentag 2006). We tested the strain hypothesis by using two items that measure conflict between work and non-work domains, thus allowing us to examine more than just work and family life. Furthermore, longitudinal data analyses – namely fixed effects models estimating the effect of intra-individual change in the independent variables on insomnia – are useful in addressing the challenges involved in drawing causal inferences from non-experimental data and tackle a fundamental problem, i. e. the so-called unobserved heterogeneity or omitted variable bias. Finally, to disentangle the effects of true state dependence and individual heterogeneity (Heckman 1981) on insomnia – and therefore take into account, in addition to potential sociodemographic determinants, primary genetic and psychological factors involved in insomnia – we used the Mundlak (1978) and Chamberlain (1982) method and estimated the extent to which baseline sleep determined current sleep patterns after controlling for a wide set of observed and unobserved individual characteristics.

2   Theoretical background and research propositions

Crain, Brossoit and Fisher (2018) have recently proposed a novel and integrated theoretical model, in which two types of resources are specifically considered when investigating the associations among work, non-work and sleep: time and "human energy", which is an umbrella construct encompassing physical and mental energy, and feelings of energetic activation (Quinn et al. 2012). These resources are supposed to intervene in the relationship between the work-life interface and sleep as follows. Time is expected to affect both sleep quantity and quality. On the one hand, when finite time resources are primarily allocated to work and non-work experiences, the amount of time available for sleep is probably reduced and lost. However, when people cannot devote the sufficient amounts of time to their work or non-work roles, they may have to change their sleep schedule (not necessarily to diminish sleep time in exchange for work and family time) in order to fulfil their duties and obligations without delay. Nonetheless, forced adjustments to the circadian processes, i. e. those regulating the sleep-wake cycle, may prevent individuals from falling asleep at their preferred or optimal times and therefore exacerbate sleep problems, such as insomnia. Turning to human energy, primary types of resources may be depleted in the work and non-work domains as a result of physical and cognitive activities, which, in turn, could affect sleep quality and quantity by either facilitating or impairing sleep. For

instance, fatigue can possibly lead to more sleep time as part of the physiological process (i. e. homeostasis) that enables the organism to preserve and restore physical or cognitive energy. On the contrary, pre-sleep cognitive hyperarousal has a potentially disruptive effect on sleep, in terms of difficulty initiating and/or maintaining sleep (for a review see, e. g., Kalmbach et al. 2018), even though some evidence suggests that work-related rumination or emotional reactivity may also predict positive mood and emotions potentially leading to better sleep quality (e. g. Cropley and Zijlstra 2011; Meier et al. 2016).

Building on Crain, Brossoit and Fisher (2018), conflict between multiple life domains (Greenhaus and Beutell 1985) and failure to detach from work during off-job hours could deplete time and human energy and have harmful effect on sleep and contribute to cause insomnia (see, e. g., Gisler et al. 2018). Accordingly, we may anticipate that:

Hp. 1: Time-based conflict causes insomnia
Hp. 2: Strain-based conflict causes insomnia
Hp. 3: Lack of psychological detachment from work results in insomnia

Although work–life issues are likely to affect sleep-related outcomes, it is reasonable to expect that, after controlling for pertinent work and family-related antecedents of both work-family conflict and insomnia, including baseline sleep, their magnitude of the effect is small. Thus, while testing alternative theoretical hypotheses (Grzywacz, 2016) and discussing each of the resource mechanisms simultaneously in a single model (Crain et al. 2018), we may gain some further insights into which aspect of the work-life interface, as well as which type of resources, has a stronger effect on insomnia.

2.1   The gendered experience of the work-life interface and sleep-related outcomes

Current literature indicates that certain socio-demographic variables, such as gender, are predisposing factors of insomnia. Specifically, women have been found to be comparatively more predisposed to develop insomnia (Ohayon 1996, 2002). Gender also plays a role in the work-life interface. Indeed, a substantial body of evidence suggests that women, following the strength and persistence of traditional gender roles and expectations, are more likely compared to men to experience difficulties in balancing work and non-work roles and demands, which leads to relatively higher work-family conflict or poorer work-life fit (for a review see, e. g., Frone et al. 1992, 1996).

The extent to which the work-life interface may generate gender-specific sleep outcomes is somewhat contested, as evidence is mixed. Some studies have shown that work-life interference and gendered obligations are strongly associated with poorer sleep quality in females rather than males (e. g., Maume et al. 2009; 2010). Nevertheless, some research has demonstrated that work-family conflict is a relevant source of strain

that predicts diminished sleep quality mainly for men (e. g., Magee et al. 2018). Finally, work and family responsibilities may not have any significant gendered effect on sleep habits and quality of sleep or bring about similar effects on men and women alike (e. g., Barnes et al. 2012; Lallukka et al. 2010; Van Tienoven et al. 2014). In sum, even if the adverse effects of the work-life interface on sleep have been increasingly investigated, the different effects on men and women deserve further attention. Considering all of this evidence, no formal hypothesis on gender differences is formulated (and tested) in this study. As for this issue, this study is exploratory in nature.

3   Data and methods

3.1   Sample

Analyses draw on the Swiss Household Panel, an annual panel study based on a random sample of households in Switzerland. The sample for this study consists of employees for whom complete data for all variables included in the models are available across the 2004 and 2016 waves: 40,240 person-year observations nested within 9,930 employees (20,026 observations nested within 4,842 males and 20,214 observations nested within 5,088 females). Sampled employees have been included in the sample for 4 years on average.

3.2   Measures

Insomnia. The respondents were asked to indicate whether, during the last 4 weeks, they experienced "difficulties in falling asleep or insomnia". This item, which was originally assessed on a 3-point scale (0 "not at all"; 1 "somewhat"; 2 "very much") was dummy-recoded (0 "not at all"; 1 "somewhat or very much"). Hence, mild or severe insomnia is the outcome variable of this study.

Work-life conflict. The work-life conflict was measured using two items, "How strongly does your work interfere with your private activities and family obligations, more than you would want?" and "How strongly are you exhausted after work to do things you would like to do?". These items, which indicated time-based and strain-based work-life conflict (Greenhaus and Beutell 1985), respectively, were assessed on a scale ranging from 0 ("not at all") to 10 ("very strongly").

Psychological detachment. Psychological detachment from work was assessed on a scale ranging from 0 ("not difficult at all") to 10 ("extremely difficult"), as follows: "How difficult do you find it to disconnect from work when the workday is over?" The item was reverse coded, so that higher values indicated recovery and recuperation processes.

3.3 Control variables

We included in the models some of the most common predisposing and precipitating factors of insomnia (for a review see, e. g., Knutson 2013; Ohayon 1996, 2002). These are:

1. *socio-demographic and economic variables,* such as age; age squared; marital status [coded in the following categories: single/never married (reference category), married, separated/divorced, widowed]; household size; number of children in the household; educational attainment [coded in the following categories: compulsory education (reference category), apprenticeship, university entrance diploma, post-apprenticeship diploma, university degree]; Swiss citizenship [dummy recoded as follows: 0 "no" 1 "yes"]; logarithm of net total annual household income;

2. *work- and employment-related variables*, such as temporary employment [dummy coded as follows: 0 "no" 1 "yes"]; part-time employment [dummy coded as follows: 0 "no" 1 "yes"]; weekly working hours; private sector employment [dummy coded as follows: 0 "no" 1 "yes"]; class position [coded, using the Goldthorpe's scheme in the following categories: higher controllers (reference category), lower controllers, routine non-manual labour, manual supervisors, skilled manual workers, semi/unskilled workers, and agricultural workers]; work intensity, measured with the following item "do you have to work fast?" and assessed on a scale ranging from 0 "never" to 10 "all the time"; stress, measured with the following item "does your job expose you to an important strain?" [dummy coded as follows: 0 "no" 1 "yes"]; perceived job insecurity, measured with the following item "would you say that your job is…" and assessed by the following categories: very secure (reference category), quite secure, a bit insecure, very insecure;

3. *stressful or negative life events*, such as the death of a closely related person [dummy coded as follows: 0 "no" 1 "yes"]; end of a close relationship [dummy coded as follows: 0 "no" 1 "yes"]; conflict with or among closely related persons [dummy coded as follows: 0 "no" 1 "yes"];

4. *health-related and lifestyle factors*, such as health satisfaction, assessed on a scale ranging from 0 "not at all satisfied" to 10 "completely satisfied"; physical activity, measured with the following item "do you currently practice physical activities which make you slightly breathless" [dummy coded as follows: 0 "no" 1 "yes"];

5. satisfaction in domains of life such as job satisfaction, satisfaction with the amount of free time, and satisfaction in financial situation, which were all assessed on a scale ranging from 0 "not at all satisfied" to 10 "completely satisfied";

6. contextual factors, assessed with the following variables: survey wave [2004 (reference category) to 2016, dummy recoded]; region [Lake Geneva (reference

category), Middleland, North-West Switzerland, Zurich, East Switzerland, Central Switzerland, Ticino].

3.4   Models and estimation methods

As previously discussed, the aim of this study is to estimate the effect of time- and strain-based conflict and psychological detachment from work on insomnia while controlling for observed and unobserved individual characteristics. For this scope, we applied static and dynamic logistic regression models specified as follows:

$$y_{it}^* = \beta' x_{it} + \alpha_i + \varepsilon_{it} \left(i = 1, \dots, N; t = 1, \dots T \right)$$

where y_{it}^* denotes the latent continuous outcome of individual i on occasion t that determines the observed response $y_{ij} = 1 \, if \, y_{ij}^* > 0$ and a value of 0 otherwise; x_{it} is a set of observed covariates associated with the outcome; α_i is the individual-specific and time-invariant unobserved heterogeneity; and α_i is the idiosyncratic error term that has variance fixed to one. We estimated this equation with different estimators: random effects (RE) and fixed effects (FE). A RE model assumes the covariates to be uncorrelated with the individual specific error term. If the individual effects correlate with the explanatory variables, RE provides biased estimates. If this assumption cannot be met, FE estimator can be considered a better choice because it yields unbiased parameter estimates by erasing time-constant unobserved heterogeneity (Cameron and Trivedi, 2009). Furthermore, in order to assess the strength of path dependence, i. e. the extent to which past experiences of insomnia determine current conditions of sleep, we used a correlated random effect approach (CRE) (see, e. g. Contoyannis et al. 2004; Mundlak 1978; Wooldridge 2005). The CRE model was specified as:

$$y_{it}^* = \gamma' y_{it-1} + \beta' x_{it} + \alpha_i + \varepsilon_{it} \left(i = 1, \dots, N; t = 2, \dots T \right)$$

where y_{it-1} expresses the lagged values of the dependent variable and is the corresponding parameter that captures the structural path dependence, that is, the degree to which exogenous past changes in sleep quality affect the current sleep quality.

To deal with the initial conditions problem that appears when the first panel observation is not the true initial outcome of the process and to allow for the correlation between the observed covariates and the time-invariant individual specific characteristics in the sleep process, the individual effect was parametrized as follows:

$$\alpha_i = \alpha_0 + \alpha_0' y_{i1} + \alpha_1' \overline{x}_i + u_i$$

y_{i1} is the initial state, that is, the state of individual i on the dependent variable at the time of the first observation and α_0' is the corresponding parameter; $\overline{x}_i$ is the part of the unobserved individual heterogeneity correlated with the X_{it} and α_1' is the corresponding coefficient (Chamberlain 1982; Mundlak 1978; Wooldridge 2005). Based on differences in the work-life experience, risk exposure to insomnia and any relevant covariates between men and women, the analyses were stratified by gender.

4 Findings

4.1 Descriptive statistics

Figure 1, Figure 2, and Figure 3 display the percentages, along with their 95% confidence intervals, of employees (i. e. person-years observations) reporting insomnia across the levels of time- and strain-based conflict, and psychological detachment from work. These reveal a clear relationship between the three work-life interface constructs and insomnia, for both male and female employees.

Figure 1   Adjusted predictions (with 95% confidence intervals) of "time-based conflict" on insomnia (pooled sample, waves 2004 to 2016)
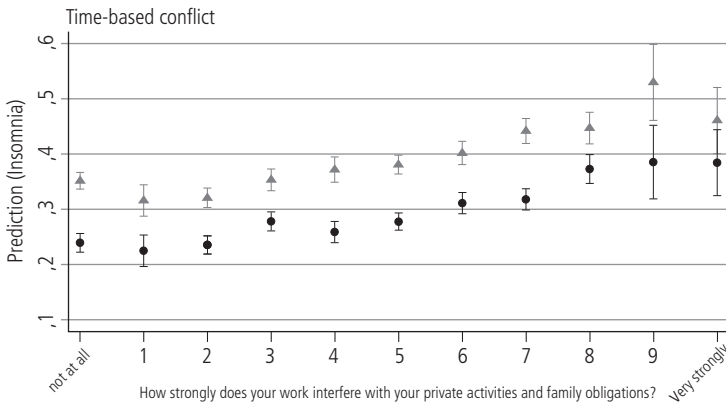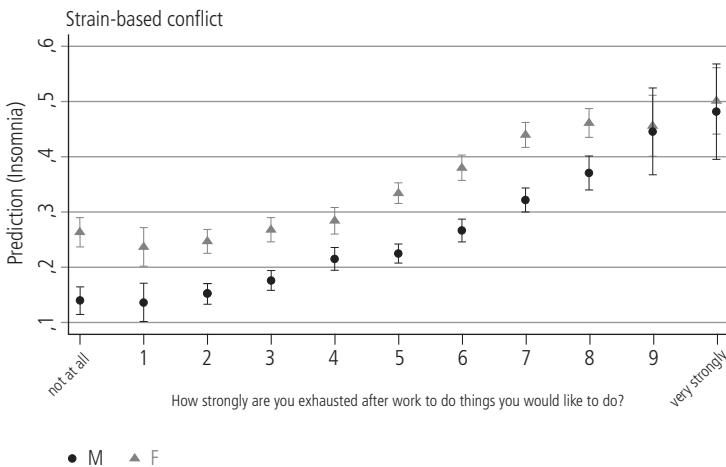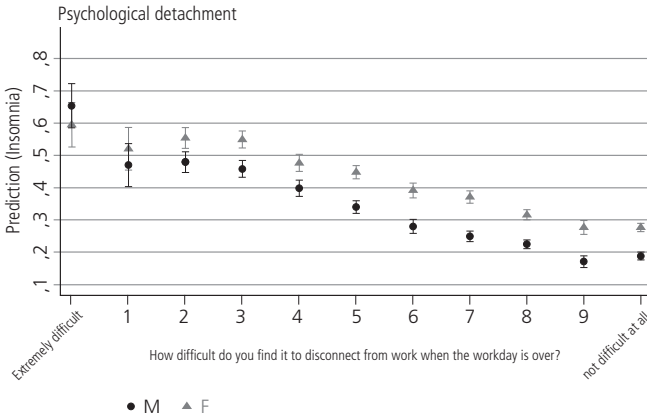

Figure 2   Adjusted predictions (with 95% confidence intervals) of "strain-based conflict" on insomnia (pooled sample, waves 2004 to 2016)

● M   ▲ F

Figure 3   Adjusted predictions (with 95% confidence intervals)
                  of "psychological detachment from work" on insomnia
                  (pooled sample, waves 2004 to 2016)

Regarding control variables (Table 1), the prevalence of insomnia ranges from 28.0% in the male sample to 37.4% in the female sample. Risk factors include, for both men and women: older age; marital status (higher prevalence in divorced/separated or widowed versus married or never married individuals); higher work intensity; stressful working conditions; perceived job insecurity; lower levels of job satisfaction, satisfaction with the amount of free time, and satisfaction in financial situation; the end of a close relationship; conflict with or among closely related persons; physical inactivity; foreign citizenship; residency in Lake Geneva region. Finally, the prevalence of insomnia has increased over the survey waves in both the male and female samples. A plausible explanation for that trend is the process of ageing of the originally sampled population of households. There are a couple of gender differences that are worth mentioning. In particular, higher socio-economic status and higher educational attainment are risk factors, but mainly for men; however, the prevalence of insomnia is higher among part-time employees, primarily in the female sample.

To illustrate the dynamic nature of insomnia, we computed empirical transition probabilities. The results indicate that about 19% of employees (i. e. person-years observations) with no reported history of insomnia at time t_{-1} reported insomnia at time t. However, about 63% of sampled individuals (i. e. person-years observations), and namely 60.2% in the male sample and 64.4% in the female sample, that had trouble sleeping at time t_{-1} reported the same condition at time t. In other words, a past episode of insomnia increases the likelihood of a subsequent episode

Table 1   Sample means and conditional probabilities of reporting insomnia by different control variables, by gender

		Male				Female			
		Sample means	P (Insomnia|x)	95% Conf. interval		Sample Means	P (Insomnia|x)	95% Conf. interval	
Age	< 26	15.73	0.238	0.223	0.253	15.04	0.310	0.294	0.327
	56–65	16.25	0.299	0.284	0.315	14.31	0.483	0.464	0.501
	65+	0.57	0.272	0.190	0.354	0.54	0.564	0.471	0.656
Marital status	single/never married	34.60	0.269	0.258	0.279	34.93	0.334	0.323	0.345
	married	57.37	0.282	0.274	0.290	49.03	0.374	0.365	0.384
	separated/divorced	7.57	0.324	0.300	0.347	14.08	0.445	0.427	0.464
	widowed	0.47	0.309	0.215	0.402	1.96	0.574	0.526	0.623
Household size	1 or 2 members	39.20	0.291	0.281	0.301	46.53	0.400	0.390	0.410
	3 or 4 members	46.87	0.279	0.270	0.288	42.07	0.362	0.352	0.372
	5 and more members	13.93	0.258	0.242	0.275	11.40	0.314	0.295	0.333
N. of children	0	39.81	0.287	0.277	0.297	44.41	0.396	0.386	0.406
	4 and more	2.36	0.258	0.219	0.297	2.19	0.222	0.183	0.260
Education	compulsory education	12.01	0.272	0.254	0.289	14.48	0.382	0.365	0.400
	university degree	22.84	0.311	0.297	0.324	18.69	0.394	0.378	0.409
Swiss citizenship	no	10.95	0.327	0.308	0.347	9.58	0.429	0.407	0.451
	yes	89.05	0.275	0.268	0.282	90.42	0.368	0.361	0.375
Household income	1st quart.	24.13	0.273	0.260	0.285	25.86	0.366	0.353	0.379
	4th quart.	26.12	0.302	0.289	0.314	23.57	0.389	0.375	0.402
Temporary employment	no	86.69	0.285	0.278	0.292	87.16	0.378	0.371	0.385
	yes	13.31	0.254	0.238	0.271	12.84	0.349	0.330	0.367
Part-time	no	82.72	0.275	0.269	0.282	32.11	0.332	0.321	0.344
	yes	17.28	0.307	0.291	0.322	67.89	0.394	0.386	0.402
Weekly working hours	1st quart.	7.53	0.312	0.288	0.335	42.69	0.390	0.380	0.400
	4th quart.	15.17	0.265	0.249	0.281	5.33	0.340	0.312	0.368
Private sector	no	66.81	0.280	0.273	0.288	52.61	0.372	0.363	0.381
	yes	33.19	0.282	0.271	0.292	47.39	0.376	0.367	0.386
Class position	higher controllers	30.78	0.310	0.298	0.321	12.30	0.359	0.340	0.378
	lower controllers	28.54	0.277	0.265	0.289	35.39	0.380	0.369	0.391
	routine non-manual	8.97	0.293	0.272	0.314	36.69	0.375	0.364	0.386
	manual supervisors	4.90	0.240	0.214	0.267	0.57	0.296	0.212	0.379
	skilled manual	15.94	0.254	0.239	0.269	3.82	0.301	0.269	0.334
	semi and unskilled	9.30	0.270	0.250	0.290	10.47	0.404	0.383	0.425
	agricultural workers	1.50	0.163	0.121	0.205	0.76	0.327	0.252	0.401

Work intensity	0	4.48	0.250	0.222	0.279	7.87	0.364	0.340	0.387
	10	4.74				5.18	0.462	0.431	0.492
Stress	no	62.30	0.230	0.223	0.238	64.71	0.335	0.327	0.343
	yes	37.70	0.364	0.353	0.375	35.29	0.445	0.434	0.457
Job insecurity	"very secure"	41.65	0.250	0.240	0.259	42.30	0.356	0.346	0.366
						2.05			
						78.76			
	"very insecure"	1.92	0.401	0.352	0.450	21.24	0.460	0.412	0.508
Death related person	no	79.74	0.277	0.270	0.284	90.70	0.366	0.358	0.373
	yes	20.26	0.296	0.281	0.310	9.30	0.405	0.391	0.420
End close relationship	no	93.53	0.276	0.270	0.282	87.94	0.364	0.357	0.371
	yes	6.47	0.350	0.324	0.375	12.06	0.472	0.449	0.494
Conflicts	no	91.87	0.272	0.266	0.279	0.33	0.359	0.352	0.366
	yes	8.13	0.379	0.355	0.402	18.06	0.488	0.468	0.508
Satisfaction with health	0 "not at all satisfied"	0.21	0.605	0.459	0.751	24.65	0.657	0.543	0.770
	10 "complet. satisfied"	14.82	0.187	0.173	0.201	75.35	0.273	0.259	0.288
						0.13			
						15.91			
Physical activity	no	22.46	0.314	0.300	0.328	1.13	0.403	0.389	0.416
	yes	77.54	0.271	0.264	0.278	13.72	0.365	0.357	0.372
Job satisfaction	0 "not at all satisfied"	0.11	0.545	0.337	0.754	1.02	0.407	0.222	0.593
	10 "complet. satisfied"	11.00	0.217	0.199	0.234	11.29	0.330	0.314	0.347
Satisfaction free time	0 "not at all satisfied"	0.82	0.436	0.361	0.512	7.04	0.472	0.407	0.536
	10 "complet. satisfied"	9.70	0.223	0.205	0.242	9.84	0.356	0.338	0.374
Satisf. financial situation	0 "not at all satisfied"	1.02	0.449	0.381	0.517	17.71	0.539	0.471	0.607
	10 "complet. satisfied"	6.98	0.254	0.231	0.277	2.63	0.358	0.338	0.378
Survey wave	2004	6.28	0.246	0.222	0.270	63.44	0.317	0.293	0.342
	2016	10.19	0.313	0.293	0.333	36.56	0.416	0.394	0.438
Region of residence	Lake Geneva	16.58	0.348	0.332	0.364		0.425	0.409	0.441
	Ticino	3.10	0.356	0.318	0.394		0.377	0.335	0.418
History of insomnia	no	72.21	0.166	0.158	0.173		0.220	0.211	0.229
	yes	27.79	0.602	0.587	0.618		0.643	0.630	0.657

of insomnia by about 43 percentage points (43.4 percentage points for males and 42 for females). This is what Heckman (1981) termed as spurious (i. e. overestimated) path-dependence, that is the propensity of an individual being in a given condition (i. e., reporting insomnia) due to individual observed and unobserved heterogeneity.

4.2 Static and dynamic logistic regression models

To understand whether the difference between the parameters of the RE and FE estimators is systematic, we ran a Hausman model selection test. According to this test, the FE models should be preferred over the RE models. We have good reasons to believe that in the static RE specifications, time-constant unobserved characteristics are likely to correlate with the explanatory variables. Parameter estimates displayed in Table 2 show that, contrary to expectations (see hypothesis 1), this study did not find a significant effect of time-based conflict on insomnia in any model. The estimated coefficients on strain-based conflict are statistically and positively correlated with insomnia only in the static RE model, while the same parameters are not statistically significant in the FE model. Neither Hypothesis 2 is confirmed. Psychological

Table 2   Effect (logit parameters) of time- and strain-based conflict and psychological detachment from work on insomnia (ß and standard errors), by gender: random effects (RE), fixed effects (FE), and correlated random effects (CRE) specifications

	RE		FE		CRE	
	M	F	M	F	M	F
Time-based conflict	−0.02	−0.003	−0.009	0.003	−0.017	−0.003
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Strain-based conflict	0.034*	0.036**	0.02	0.022	0.017	0.027
	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)
Psychological detachment	−0.183***	−0.151***	−0.110***	−0.112***	−0.119***	−0.107***
	(0.02)	(0.003)	(0.009)	(0.003)	(0.017)	(0.003)
Insomnia (t_0)					1.676***	1.308***
					(0.1)	(0.07)
Insomnia (t_{-1})					0.635***	0.752***
					(0.07)	(0.06)

Hausman test (male sample) $Chi^2(44)=193.50$; prob > chi2 = 0.0000
Hausman test (female sample) $Chi^2(44)=116.84$; prob > chi2 = 0.0000

*$p<.05$; **$p<.01$; ***$p<.001$.

[1] Adjusted for: age; age squared; marital status; household size; number of children in the household; educational attainment; Swiss citizenship; logarithm of net total annual household income; temporary employment; part-time employment; weekly working hours; private sector employment; class position; work intensity; stress; perceived job insecurity; the death of a closely related person; end of a close relationship; conflict with or among closely related persons; health satisfaction; physical activity; job satisfaction. satisfaction with the amount of free time; satisfaction in financial situation; survey wave; region.

detachment from work significantly affects insomnia in all the analytic strategies presented for both male and female employees. Hence, hypothesis 3 is confirmed.

Table 3 reports the average marginal effects for all model specifications. The results indicate that in the dynamic logistic regression models (CRE), which include the lagged dependent variable, any unit of increase in psychological detachment from work reduces the probability of experiencing insomnia by 1.5 percentage points for male employees and by 1.7 percentage points for female employees. As expected, these parameter estimates are lower than those obtained by running FE models. When comparing parameter estimates obtained in models fitting between male and female samples, we found no statistically significant difference. Hence, we may argue that the magnitude of the effect of constructs measuring work-life interface on insomnia is similar between the two groups.

Table 3   Average Marginal Effects (AME) of time- and strain-based conflict and psychological detachment from work on insomnia (derivatives of responses and standard errors), by gender: random effects (RE), fixed effects (FE), and correlated random effects (CRE) specifications

	RE		FE		CRE	
	M	F	M	F	M	F
Time-based conflict	−0.003	−0.000	−0.002	0.000	−0.002	0.000
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)
Strain-based conflict	0.004*	0.005**	0.004	0.004	0.002	0.004
	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)
Psychological detachment	−0.023***	−0.023***	−0.022***	−0.020***	−0.015***	−0.017**
	(0.001)	(0.002)	(0.005)	(0.006)	(0.002)	(0.002)
Insomnia (t0)					0.250***	0.225***
					(0.01)	(0.01)
Insomnia (t-1)					0.086***	0.125***
					(0.01)	(0.011)

$*p<.05; **p<.01; ***p<.001.$

[1] Adjusted for: age; age squared; marital status; household size; number of children in the household; educational attainment; Swiss citizenship; logarithm of net total annual household income; temporary employment; part-time employment; weekly working hours; private sector employment; class position; work intensity; stress; perceived job insecurity; the death of a closely related person; end of a close relationship; conflict with or among closely related persons; health satisfaction; physical activity; job satisfaction. satisfaction with the amount of free time; satisfaction in financial situation; survey wave; region.

The results also suggest a certain degree of persistence of insomnia when accounting for individual-specific heterogeneity. More in detail, the likelihood of developing insomnia is 8.6 percentage points higher in male employees who had a past insomnia complaint compared to those who did not and 12.5 percentage points higher in female employees with a past episode of insomnia compared to those who reported

a better sleep quality. As expected, the magnitude of these parameters, which measure structural path dependence, is much lower compared to the size of empirical transition probabilities, i. e., spurious path dependence. The strength of structural path dependence parameters reflects the effect of behavioural, attitudinal and physiological changes caused by a reported history of insomnia (see, e. g., Attarian 2017; Levenson et al. 2015).

5   Discussion and conclusion

Previous studies have indicated that insomnia is a common health issue, which is associated with a range of adverse consequences in different domains of life (Attarian 2017; Crain et al. 2014; Hammig et al. 2009; Kessler et al. 2011; Mullins et al. 2014; Pilcher and Huffcutt 1996; Sarsour et al. 2011). Hence, in an attempt to promote well-being and productivity at work and reduce associated health care costs, treating insomnia is a major concern, for both employers and national governments.

There have been several calls for further research in the field of social sciences to shed more light on the determinants of insomnia and other sleep problems or disorders, while properly assessing the magnitude of the effect of the work-life interface (e. g., Gisler et al. 2018; Grzywacz 2016). To respond to such calls, we used data from the Swiss Household Panel and investigated whether and to what extent work-life conflict – decomposed into time- and strain- based conflicts (Greenhaus and Beutell, 1985) – and the ability to disconnect mentally from work (i. e. psychological detachment from work) (Etzion et al. 1998; Fritz and Sonnentag 2006) affect sleep initiation and maintenance problems. In an attempt to extend prior research, we employed static and dynamic panel data methods and determined the unique contribution of these three work-life constructs to the prediction of insomnia, while controlling for a wide range of predisposing and precipitating factors (Spielman 1986; Spielman et al. 1987) and for the strength of path-dependence (Heckman 1981) in sleep patterns.

In summary, the findings confirm that work-life conflict and low psychological detachment from work may deplete key resources such as time and therefore human energy, which, in turn, may cause difficulties initiating or maintaining sleep (e. g. Crain et al. 2018). However, when adequately accounting, by means of a complex research design, for individual heterogeneity and for the relative importance of multiple contributing factors, recovery and recuperation processes from/after work appear crucial to the experience of insomnia, while the significance of perceived work-life conflict recede. In practice, as for the effect of the work-life interface, which was the focus of this study, primary triggers of insomnia relate to emotional involvement in and rumination about work-related issues during off-job time; conversely, time constraints and job strain do not result in the same detrimental outcomes. Hence,

there is reason to believe that both person- and organisation-directed interventions aimed at reducing work-related thoughts and cognitive arousal – such as cognitive behavioural training, counselling, relaxation exercises, mindfulness meditation, social support, work process restructuring, performance appraisals – could be more effective in addressing employee sleep onset and maintenance problems. That said, as suggested by the 3P behavioural model (Spielman et al. 1987), insomnia is best understood as resulting from a variety of genetic, psychological, behavioural, socio-economic, and contextual factors. In this regard, the findings show that the magnitude a previous episode of insomnia or negative or stressful life events have a much higher effect on insomnia compared to the experiences of the work-life interface.

Finally, estimated parameters are quite similar in the male and female samples, indicating that apparently, gender differences in the effect of the work-life interface on sleep quality are not significant. Overall, these findings are consistent with those of van Tienoven and colleagues (2014), who found that increasing work and family responsibility do not seem to result in alteration of the circadian or homeostatic aspects of the sleep process, but rather predict regular timing of sleep and sleep habits, for both men and women.

Despite these novel and empirically sound findings, which only partially support the previous cross-sectional research on the adverse effects of the gendered character of the work and non-work experiences on sleep, this study has some limitations that need to be acknowledged. In particular, the outcome variable was a self-reported measure of sleep. Therefore, the reports may have been biased. Indeed, subjective reports of sleep quality tend to be lower compared to objective sleep measures derived from actigraphy or polysomnography (e.g., Edinger and Krystal 2003). In addition, because of gendered cultural frameworks, men may be less inclined to admit sleep complaints (Knutson 2013; van den Berg et al. 2009). Nonetheless, we trust that this study opens the way for more research that could investigate the causal effect of the work-nonwork interface on sleep using longitudinal data and techniques that are more rigorous.

6   References

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Debt and Subjective Well-Being: Does the Type of Debt Matter?

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Abstract: Based on longitudinal analyses of data from the Swiss Household Panel, this paper investigates the effect of different types of debt on two evaluative measures of subjective well-being: financial satisfaction and life satisfaction. Payment arrears reduce financial satisfaction more than loans or the accumulation of different types of debt (arrears and loans). This negative effect is stable over time. Conversely, each additional year with arrears decreases life satisfaction, confirming the overall and general negative effect of arrears on all domains of daily life, especially for the elderly.

Keywords: Debt, Over-indebtedness, Well-being, Satisfaction, Financial

Endettement et bien-être subjectif: Le type de dette joue-t-il un rôle ?

Résumé : S'appuyant sur des analyses longitudinales des données du Panel Suisse de Ménages, cet article examine l'effet de différents types de dettes sur deux mesures évaluatives du bien-être subjectif: la satisfaction financière et la satisfaction de la vie. Les arriérés de paiement diminuent plus la satisfaction financière que les emprunts ou le cumul de dettes (arriérés et emprunts). Cet effet négatif est stable dans le temps. En revanche, chaque année supplémentaire avec des arriérés diminue la satisfaction de la vie, ce qui confirme l'effet négatif global et général des arriérés sur tous les domaines de la vie quotidienne, tout particulièrement pour les aînés.

Mots-clés : Dettes, Surendettement, Bien-être, Satisfaction, Financier

Schulden und subjektives Wohlbefinden: Spielt die Art der Schulden eine Rolle?

Zusammenfassung: Basierend auf Längsschnittanalysen von Daten des Schweizer Haushalt-Panel untersucht dieser Artikel den Einfluss verschiedener Verschuldungsarten auf zwei Komponenten des subjektiven Wohlbefindens: finanzielle Zufriedenheit und Lebenszufriedenheit. Zahlungsrückstände reduzieren die finanzielle Zufriedenheit mehr als Kredite oder die Kumulierung verschiedener Schuldenarten (Rückstände und Kredite). Dieser negative Effekt ist im Laufe der Zeit stabil. Andererseits verringert jedes weitere Jahr mit Rückständen die Lebenszufriedenheit und bestätigt den allgemeinen und negativen Einfluss von Rückständen auf alle Bereiche des täglichen Lebens, insbesondere für ältere Menschen.

Schlüsselwörter: Schulden, Überschuldung, Wohlbefinden, Zufriedenheit, Finanzen

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1   Introduction

In Switzerland as elsewhere, the consequences of debt on subjective well-being (SWB) remain little studied compared to the effect of income (for review, Tay et al. 2017). Yet it is a socially relevant question. On the one hand, the effects of a difficult financial situation on SWB do not only concern the family and individuals but can have wider consequences, particularly at the professional level in terms of productivity and absenteeism (Prawitz et al. 2006). On the other hand, the subjective perception of one's economic situation and its consequences are considered as a relevant indicator to identify situations of over-indebtedness (D'Alessio and Lezzi 2013). Swiss scientific studies have so far focused on identifying the populations most affected by debt and the processes that lead to problematic debt (for example, Christin 2012; Henchoz and Wernli 2012) but we have few indicators and ways to distinguish situations of over-indebtedness, which are of particular concern to the political world and to social intervention. In addition, very few studies detail the effects of debt on SWB in Switzerland (Białowolski 2018). Indeed, Switzerland is particularly under-represented in the literature on debt and SWB (Hiilamo and Grundy 2018). Comparative studies at international and European level also do not include Switzerland in their analyses (Angel and Heitzmann 2015; Clayton et al. 2015; Georgarakos and Fürth 2015).

In international studies, it is often the effect of a loan or mortgage on the SWB that has been analyzed (Fitch et al. 2011; Tay et al. 2017). This does not allow a complete understanding of the Swiss situation, as access to property is one of the lowest in Europe.[1] In 2017, according to the Swiss Federal Statistical Office (FSO)[2], the two most common types of debt (excluding mortgage debt) are loans and arrears. The first (leasing, small credit, purchase by instalment, debt with family or friends) concern more than 34% of the population, the most common being loans linked to the purchase of leased vehicles followed by the purchase on credit of goods for housing (23.3% and 5.7% respectively). Arrears in payments concern nearly 19% of the population. Arrears in taxes or health insurance premiums (9.9% and 7.3% of the population respectively) are the most common. This is due in particular to the specific features of the Swiss tax and health insurance system. For most residents, taxes and health insurance premiums are not deducted directly from wages as in other countries but paid individually. In cases of economic difficulty, qualitative studies (Goode 2012; Henchoz and Coste 2017) show that deferring this type of mandatory payment is often perceived as a privileged way to free up some liquidity for more urgent expenses (food, rent, etc.). The question of the link between the type of debt

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[1]   https://ec.europa.eu/eurostat/statisticsexplained/index.php?title=File:R%C3%A9partition_de_la_ population_en_fonction_des_modalit%C3%A9s_de_jouissance_du_logement,_2016_(en_%25_ de_la_population)YB18.png (18.06.2019).

[2]   https://www.bfs.admin.ch/bfs/fr/home/statistiques/situation-economique-sociale-population/ revenus-consommation-et-fortune/endettement.html (09.03.2020).

and SWB seems therefore very relevant to explore for Switzerland because previous research tend to point out that a payment arrears systematically has a greater impact on health (Turunen and Hiilamo 2014) and financial satisfaction (Tay et al. 2017).

The main objective of this article is to investigate the differential effects of different types of debts (loans and arrears) on two evaluative measures of subjective well-being: financial satisfaction and life satisfaction. To do this, we use the data from the Swiss Household Panel (SHP), which has the advantage of having detailed data on debt and SWB from the beginning and allows us to study this question over the long term. This approach is innovative because longitudinal studies are rare in this field (Richardson et al. 2017; Tay et al. 2017). Analyzing the differential effects of different types of debt will also allow us to identify the situations at risk of over-indebtedness and the most damaging to SWB.

2 The differential effects of debt on SWB: A theoretical framework

In the scientific literature, economic security is considered as one of the essential components characterizing the SWB of populations (Osberg and Sharpe 2002). However, it has mainly been approached through income, which explains why there are comparatively fewer studies focusing on the effect of debt (Tay et al. 2017). The diversity of ways of conceptualizing debt (Fitch et al. 2011) and the difficulty in quantifying the amount of debt faced by households (Betti et al. 2007) also explains the relatively small number of studies on the subject.

As highlighted in systematic reviews, both debt and SWB indicators are chosen and defined differently according to the research (Fitch et al. 2011; Tay et al. 2017; Turunen and Hiilamo 2014). Although indebtedness is a multidimensional situation that includes loans, leasing or arrears in payments, many studies do not differentiate between types of debt (Fitch et al. 2011). Finally, the definition of SWB and the distinction between well-being and mental health is not always clear, as SWB is an indicator that was empirically constructed before being more formalized (Tay et al. 2017). In the early 1980s, researchers broke down SWB into three distinct components: life satisfaction, positive affect and negative affect (Diener 1984; Diener et al. 1985). Diener et al. (1999) later added satisfaction in specific life domains (health, finance or leisure, etc.)

These different points make it difficult to compare and update trends and explain the sometimes contradictory results. However, we can identify some key points that are relevant to our analysis.

Based on a general definition of debt "as the financial obligation one has to render to another person or institution" (Tay et al. 2017, 908), the scientific literature has focused on the effects of mortgages and loans on mental health and SWB (Fitch et al. 2011). In their systematic review, Tay et al (2017) noted the significant

association between debt and SWB decline (see also, Brown and Gray 2016; Shen et al. 2014). However, the results are more mixed when looking at the effect of different types of debt on health and SWB (Fitch et al. 2011).

For some, borrowing would have a more negative effect than mortgage credit (Brown and Gray 2016), especially if loans and credits accumulate (Norvilitis et al. 2006). However, according to two longitudinal studies, housing payment problems lead to poorer mental health scores than other types of debt (Nettleton and Burrows 2001; Reading and Reynolds 2001). According to another study, it is rather the consumer debt which have this effect (Brown et al. 2005).

Several international studies have already suggested that loans are less associated with a deterioration of SWB than arrears (Tay et al. 2017). In the same vein, a recent research on the effects of divorce on debt in Switzerland (Wernli and Henchoz 2018) has found that arrears have more negative effects on life and financial satisfaction than loans, partly because in Switzerland loans and credits are only accessible if households have a certain level of income.

However, other studies suggest that it is not so much the type of debt as the difficulty in repaying financial obligations that matters. According to qualitative studies (Nettleton and Burrows 2001), well-being is mainly affected by the fear of losing one's home or the inconvenience of having difficulty paying mortgage inter-est (reminder to creditors, etc.). The same observation can be found in quantitative studies (Drentea 2000; Drentea and Reynolds 2012). The likelihood and fear of being in arrears or in default are associated with a higher level of anxiety. However, Drentea (2000) notes the importance of taking all debts into account, as it is not so much the fact of having loans as the overall debt situation that causes feelings of anxiety. The same finding in research with American students indicates that it is less the type of debt than the debt burden that impacts SWB (Archuleta et al. 2013).

It is therefore difficult to conclude in view of these results. As Fitch et al. (2011) note in their review, many studies do not distinguish between "problematic" debts in which he includes arrears in payments, and debts that he calls "normative", i. e. managed and repaid without difficulty. In the same vein, other work (Richardson et al. 2013) focuses on "unsecured debt" (a loan that is not backed by an underlying asset), showing that they have proven effects on physical and mental health but with-out really defining what this concept covers and what types of debt it encompasses. Therefore, it seems important to consider in our analysis this distinction between two types of debt, namely planned, voluntary and manageable debt (loans) and unplanned, involuntary and sometimes unpredictable debt (arrears).[3]

This distinction makes it possible to better understand certain existing research results. For example, the fact that loans would be less associated with health problems than arrears (Turunen and Hiilamo 2014) or that borrowing money from friends or family would be less psychologically painful than borrowing from credit institutions

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3   See our hypotheses for more details.

(Meltzer et al. 2013). Finally, while most studies highlight the negative effect of debt on health, others note that this relationship may also be positive (Berger et al. 2015). Manageable debts can have a positive effect on SWB and health by increasing consumption capacity and financial flexibility (Clayton et al. 2015). However, this effect may change over time, and become negative if you lose the ability to manage your debt (Richardson et al. 2013) or if the debt continues (Clayton et al. 2015).

3 Indicators and hypotheses

3.1 Indicators of debt and SWB

Before presenting our hypotheses, it is necessary to specify and describe the indicators we have chosen because they are essential to a clear understanding of the rest of the discussion.

Debt indicators (Independent variables)

The SHP data do not make it possible to determine the overall amount of a household's debts, but they do contain indicators that make it possible to analyze and distinguish two key dimensions of debt that we have highlighted above: loans and arrears.

   These 2 indicators make it possible to distinguish between 3 debt situations:
   1. Loans[4]
   2. Arrears[5]
   3. Cumulation (Loans + Arrears)

SWB indicators (dependent variables)

In the scientific literature, SWB is generally studied in two distinct dimensions: the affective dimension and the evaluative dimension (Diener 1984; Diener et al. 1985; 1999). The first one is how debt influences the frequency of positive feelings (strength, energy, optimism) and the frequency of negative feelings (blues, despair, anxiety or depression). The second one concerns the effect of debt on the evaluation of satisfaction, which can be done in a specific domain (housing, leisure, finance, etc.) or globally, in life in general. To better highlight these differentiated effects of

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[4]   "Since (month, year), have you, or another member of the household, paid monthly premiums linked to a loan, a debt or a leasing, not including mortgage?" (1 = yes; 2 = no).
[5]   "Since (month, year) have you experienced problems which resulted in arrears in payments of your household bills?" (1 = yes; 2 = no).

debt, we have chosen to focus on the evaluative dimension, more specifically on two indicators: financial satisfaction[6] and life satisfaction in general.[7]

The first indicator, financial satisfaction (Diener et al. 1999) is particularly interesting to consider for several reasons. First, there are a limited number of studies which explore the determinants of financial satisfaction and within this literature, relatively few studies focus on the role of household debt (Brown and Gray 2016). Second, the concept of financial satisfaction includes both objective and subjective measures: income, amount of debt, level of savings, ability to handle financial stress, perception of financial outcomes and money management skills (Hira and Mugenda 1998). Consequently, this indicator seems relevant to assess the debt burden and the plannable and manageable dimension of our three debt situations (Brüggen et al. 2017). The second indicator, life satisfaction in general (Diener et al. 1985), is useful to understand to what extent certain debt situations have consequences that go beyond the strictly financial domain. On the theoretical level, these two indicators are strongly interrelated, as synthesized pertinently by Tay et al. (2017, 909) in their conceptual model: a "bottom-up spillover perspective posits that overall SWB is psychologically constructed from domain satisfactions; that is, overall SWB is derived from a sense of whether different life domains are satisfactory (Kahneman 1999), with each domain weighted by its importance to life goals (Oishi et al. 2001). Financial well-being is one of the key life domains for overall SWB (Diener et al. 1999), and the occurrence of debt can adversely affect financial satisfaction and, subsequently, overall SWB. Furthermore, because the financial domain undergirds opportunities and costs for a variety of life domains, financial well-being likely exerts spillover effects that influence other life domains such as marriage, family, and leisure".

Both indicators are captured by a single measure, which raises the question of their validity and their reliability. However, previous research has identified many examples where single-element measures work well, as well as multiple-element measures (Cheung and Lucas 2012). Lucas and Donnellan (2012) showed specifically that in large panels, life satisfaction measures with a single item yielded results almost identical to those with several items such as the life satisfaction scale.

3.2   Hypotheses

We have retained two main research hypotheses to test in this article. The first hypothesis plays a central role in our article by analyzing several debt situations and their respective effects on our SWB indicators.

H1: The differential effects of different types of debt on SWB

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6   "Overall how are you satisfied with your financial situation?" (11-point scale with 0 means "not at all satisfied" and 10 means "completely satisfied").
7   "In general, how satisfied are you with your life?" (same response modalities).

By integrating several debt and SWB indicators into our analysis models, we will be able to test in detail the general assumption that not all debt situations have the same impact on SWB.

H1.1: Borrowing (loans) increases financial satisfaction but has little effect on life satisfaction

In Switzerland, loans are the closest to planned, voluntary and manageable debts (Fitch et al. 2011; Richardson et al. 2013). The monthly payments and interest due are predictable because they are defined by law and contractualized. In addition, under current Swiss law, the lender is required to verify the financial capacity of the debtor to repay the loan within 36 months. In other words, loans are available to individuals and households whose budgets will not be disrupted by this debt and who are supposed to have the means to repay it without jeopardizing their standard of living (Henchoz and Wernli 2012). Therefore, as others have already pointed out, we assume that, in the Swiss context, borrowing can have a positive effect on financial satisfaction (Berger et al. 2015). They are manageable, predictable and plannable debts that can increase consumption capacity and financial flexibility (Clayton et al. 2015). In this sense, we assume that borrowing has no effect on life satisfaction or a slight positive effect because it provides opportunities for financing leisure and other activities that can strengthen this dimension of SWB. However, it is expected that the effect will be non-existent or very little positive because the effect is short-term, with loans having to be repaid.[8]

H1.2: Payment arrears reduce financial and life satisfaction

We consider arrears as "unmanageable debt", debt that is unpredictable and difficult to plan for several reasons. Firstly, there is no law setting reminder fees. As a result, they are difficult to predict and can sometimes reach significant amounts that do not allow for adequate reimbursement planning. Secondly, arrears are frequently associated with economic difficulties and financial stress. This is due in particular to creditor recovery actions (Hiilamo and Grundy 2018) and the anxiety and uncertainty involved (Drentea 2000). Consequently, arrears would reduce both indicators of SWB examined (Białowolski 2018).

H1.3: The accumulation of debts (loans and arrears) is the debt situation that most negatively affects financial and life satisfaction

The accumulation of different types of debt is often considered as one of the signs of over-indebtedness (European Commission 2008), i. e. a situation where household income, in spite of a reduction of the living standard, is insufficient to discharge all payment obligations over a long period of time. In Switzerland, there is no quantitative measure of over-indebtedness. The FSO also tries to assess over-indebtedness

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8   See Hypothesis 2

by measuring the accumulation of different types of debt (leasing, small loan or consumer loan purchase by instalment, debt with family or friends not living in the household, arrears, bank overdraft or unpaid by credit card). This debt situation concerned less than 20% of the population in 2017[9]. Qualitative research also seems to confirm that debt accumulation is often a sign of over-indebtedness or, in any case, of difficulties in coping with debt by trying to find funds through different means (Henchoz and Coste 2017). We therefore assume that the accumulation of loans and arrears is the debt situation that will most negatively affect financial and life satisfaction.

Table 1   Summary of hypotheses related to the differentiated effects of debt on SWB

	Financial Satisfaction	Life satisfaction
Loans	+	No effect
Arrears	−	−
Cumulation	--	--

In order to deepen this first central hypothesis, we propose a complementary hypothesis related to the temporal dimension of the link between debt and SWB. In our view, the differentiated effects of the types of debt are mitigated or reinforced by this dimension.

H2: The duration of debt will have a different effect on SWB depending on the type of debt

Financial and life satisfaction are dynamic in that individuals' evaluations of a situation can change over time (Brüggen et al. 2017). We therefore hypothesize that the duration of debt will have a different effect on SWB depending on the type of debt:

H2.1: Borrowing (loans) is a planned debt and therefore has a constant effect over time

We therefore expect no change in both dimensions of the satisfaction examined over time.

H2.2: Arrears are unplanned debt and will have a differentiated effect over time

We expect a negative impact on financial satisfaction if the situation continues (Clayton et al. 2015) because it implies an increasing difficulty in managing debt (Richardson et al. 2013). However, we expect that the negative impact of debt on life satisfaction will decrease over time as individuals will become accustomed to

the situation. We hypothesize a habituation mechanism; that is, a form of learning about the debt situation that results in a decrease in the intensity and frequency of its negative effects (Shen et al. 2014).

H2.3: On the contrary, the accumulation of debts does not imply any habituation effect because the situation is constantly changing

Negative effects add up and this implies permanent adjustments by the persons concerned (Henchoz and Coste 2017). Consequently, we expect that the impact on the two satisfaction indicators will be reinforced as a function of the duration of the debt.

Table 2   Summary of hypotheses related to the temporal dimension of debt on SWB

	Financial Satisfaction	Life satisfaction
Loans	No effect	No effect
Arrears	–	Effect tends towards zero
Cumulation	--	--

4   Data and analytical strategy

4.1   Data

The empirical test of our hypotheses is based on data from the SHP[10], a representative multi-thematic longitudinal survey conducted by the Swiss Foundation for Social Science Research[11] and funded by the Swiss National Science Foundation (SNSF). Since 1999 (wave 1), all members aged 14 and over of the selected households have been interviewed annually, mainly by telephone. In 1999, the first random sample consisted of 5074 households and 12931 individuals. Since 2004, a second random sample (2538 households and 6569 individuals) and a third one from 2013 (3988 households and 9881 individuals) have been followed, according to the same principle.

In order to control selection biases as much as possible and to take into account part of endogeneity, we retain in our longitudinal analyses only those individuals who are not indebted at the time of their first observation, to examine the effect of debt on SWB when and if it occurs. As not all of the selected debt and SWB indicators were introduced at the same time into the SHP questionnaire our samples vary slightly. It ranges from a minimum of 118966 complete observations on all variables considered, relating to 19803 different individuals, to a maximum of 129201 observations, collected from 21220 cases (SHP waves 1 to 19 for financial

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10   www.swisspanel.ch
11   www.forscenter.ch

satisfaction, 2 to 19 for life satisfaction). In average we count between 6.0 and 6.1 observations per person.

4.2   Analytical strategy

Our analyses are conducted using fixed-effect linear longitudinal models (Rabe-Hesketh et al. 2012), since we model dependent variables measured on a scale from 0 to 10. These models take the form of the following equation:

$$Y_{it} - \overline{Y}_i = \beta_1 \cdot (x_{1it} - \overline{x}_{1i}) + \ldots + \beta_p \cdot (x_{pit} - \overline{x}_{pi}) + (\varepsilon_{it} - \overline{\varepsilon}_i)$$

where $i = person\ index\ and\ t = time\ index$

For each observation at a time t for an individual i, we explain the difference between the dependent variable Y and the mean level of it for all observations of this same individual, by the difference between each independent variable X and the mean level of it, always for a given individual. These fixed-effect models therefore explain a difference in state on Y by a difference on the X's parameters and are therefore particularly suitable for causal analysis (a change explains a change). By focusing on intra-individual variance, they allow us to control part of the endogeneity of the explanatory models by eliminating the influence of unmeasured parameters that would remain stable over time.

   We test the effect of loans and arrears in separate models in order to highlight their respective impacts, each time starting with samples of people not in debt on this specific dimension. Concerning the impact of the accumulation of the two types of debts, we measure it by introducing an interaction effect which materializes their joint occurrence, in addition to the distinct effect of arrears and loans. In that case, analyses are based on a sample of people who did not have any arrears at the time of their first observation. We opted for this strategy because few people passed from a situation of non-debt to a cumulative situation within a year.

   Our analyses are controlled by different parameters that may vary over time. Time variant variables are age, whose square is also considered to form a curvilinear relationship, labour force participation rate, annual net household income, whether or not interviewees live in a couple, health status and the extent to which respondents are restricted in their daily activities by the latter.

   In our analyses, we also consider several invariant variables, normally ignored in fixed-effect models, that interact with debt indicators in order to verify whether they have a differentiated impact on SWB for certain categories of respondents. These invariant variables refer to nationality (Swiss or non-Swiss), language region of residence (German, French or Italian-speaking Switzerland), birth cohort (1958 and before, 1959 to 1978, 1979 and after), sex, education level in three groups (compulsory schooling, vocational training, higher education) and the tertile of the household's net annual income. When intra-individual variations on these pa-

rameters are observed during the duration of the panel[12], we considered respectively that Swiss nationality, membership of a minority language region, maximum level of education and average annual income during the period under review were the criteria for allocation to these groups throughout the whole period under review.

To measure the temporal effect of debt, we use time counters that measure years of debt from their occurrence. These remain at 0 when the household is not indebted and increase by one unit for each additional year of debt, without considering a specific threshold for simplification purposes.

5 Results

5.1 Descriptive results

Table 3 compares four different debt situations (neither loans nor arrears, only loans, only arrears and cumulation). It does not allow us to conclude whether the discrepancies identified are caused by the occurrence of loans or arrears but provides several inputs and leads that we will briefly detail in relation to our hypotheses.

Table 3 shows that, overall, indebted people experience lower financial and life satisfaction than debt-free people. The difference is particularly marked for people living in households with arrears and accumulated debt, which tends to confirm our assumptions. Members of these two groups are significantly less satisfied financially than people who have loans or no debt. (respectively an average satisfaction level of 5.3 when in arrears, 5.2 with debt accumulation against 6.9 with loans and 7.5 without debt). The same can be said for life satisfaction (7.3 and 7.4. against 8.0 and 8.2 respectively).

Table 3 provides possible explanations. Thus, people in debt have less ability to save money than people without debt. They are also more likely to spend what they earn or eat into savings and assets and get into debt. At this stage, our results also confirm that economic capacities and practices differ according to the type of debt. In general, people with arrears and accumulated debt are in the most difficult financial situations than people living in households with only loans. The ability to save is the lowest among these two groups (respectively 15% and 12% compared to 60% for debt-free people and 51% for people with loans). There are more people in these groups who spend what they earn (61% with arrears and 60% with cumulation against 44% with loans and 33% without debt). More worryingly, more people living in households with arrears or accumulated debt are drawing on their savings (17% and 13%) than other groups (7% without debt and 4% with loans). At this stage, two explanations can be proposed for the fact that people with a loan

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12   Indeed, apart from birth cohort and sex, it is possible, even if cases are rare, to acquire Swiss nationality, to change language region, education level or income tertile from one interview to the next.

Table 3   Descriptive statistics according to debt situation –
                 average and percentage

	neither loans nor arrears	only loans	only arrears	loans and arrears	n observations
sociodemographic variables					
men	79%	12%	5%	4%	65 726
women	80%	11%	6%	3%	80 712
1979 or younger	74%	14%	8%	5%	31 310
1959–78	72%	16%	7%	5%	51 754
1958 or older	89%	6%	3%	2%	63 373
Swiss citizenship	81%	11%	5%	3%	136 851
foreign citizenship	67%	18%	8%	7%	9587
level of education					
low	77%	11%	7%	5%	22 755
middle	79%	12%	5%	4%	68 537
high	82%	11%	5%	3%	55 144
linguistic region					
Swiss german	85%	8%	5%	2%	100 481
Swiss french	69%	18%	7%	6%	38 969
Swiss italian	73%	17%	5%	5%	6869
variables related to household income					
net annual household income, not ajusted	114 006	129 396	84 838	98 334	136 068
net annual household income, ajusted OECD	65 839	68 186	44 731	51 278	134 071
assessment of household income and expenses					
hh can save money	60%	51%	15%	12%	79 042
hh spends what it earns	33%	44%	61%	60%	52 704
hhs eats into savings and assets	7%	4%	17%	13%	11 104
hh gets into debts	0%	1%	7%	16%	1805
satisfaction variables					
satisfaction of financial situation: mean – p. < 0.001 – Eta 0.30	7.50	6.88	5.35	5.23	145 993
satisfaction of financial situation: standard deviation	1.95	2.01	2.57	2.55	
satisfaction of financial situation: standard error of the mean	0.01	0.02	0.03	0.04	
satisfaction of life in general: mean – p. < 0.001 – Eta 0.17	8.15	8.03	7.30	7.36	138 583
satisfaction of life in general: standard deviation	1.34	1.34	1.89	1.80	
satisfaction of life in general: standard error of the mean	0.00	0.01	0.02	0.03	

are the least likely to draw from savings. On the one hand, they are the ones who benefit from the highest net annual household income. On the other hand, it could also mean that our assumption that a loan offers some financial flexibility at least initially tends to be confirmed.

Finally, we see that accumulating different types of debt presents the greatest risk of entering a spiral of over-indebtedness since 16% of people in households that accumulate get into debts compared to 7% for those in arrears and 1% for those with loan and 0% for those without debt.

Table 3 also confirms the FSO's results[13], that not everyone is affected by these debt situations. Thus, the differences between linguistic regions regarding debt situations are significant. Indeed, 85% of the German-speaking Swiss have no debt compared to 69% of the French-speaking Swiss and 73% of the Italian-speaking Swiss. While there are no major differences in the fact of having arrears (respectively 5% of German-speaking Swiss compared to 7% of French-speaking Swiss and 5% of Italian-speaking Swiss), households with loans are much more numerous (18% of French-speaking Swiss and 17% of Italian-Speaking Swiss compared to 8% of German-speaking Swiss). The same observation can be made with regard to debt accumulation (2% Swiss Germans against 6% Swiss French and 5% Swiss Italians).

Swiss people are also less indebted than foreigners. 81% of Swiss have no debt compared to 67% of foreigners. Finally, we see that the younger you are, the more likely you are to be in debt.

5.2 Longitudinal results

5.2.1 Effects differentiated by type of debt (H1)

Becoming indebted mainly affects financial satisfaction but in different ways depending on the type of debt

Our analyses confirm that entering a debt situation has a significant effect on SWB. In all types of debt, financial satisfaction is more affected than life satisfaction. These results confirm the fact that the level of financial satisfaction is more directly impacted by debt than life satisfaction. Our results assert the existence of different effects on SWB depending on the type of debt (H1). Having a loan has a negative impact on financial satisfaction (–0.34; Table 4) but less than having arrears (–0.63; Table 5) or accumulated debts (–0.36).[14]

Having arrears or accumulating debts also affects life satisfaction

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13   https://www.bfs.admin.ch/bfs/fr/home/statistiques/situation-economique-sociale-population/
      revenus-consommation-et-fortune/endettement.html (09.03.2020).
14   In detail: –0.36 = –0.71 (arrears) + (-0.06 (loans)) + 0.41 (arrears*loans). Table and detailed results
      for accumulated debts are available from the corresponding author upon request.

As expected, the effect of different types of debt on life satisfaction is more nuanced. In line with our hypothesis (H1.1), loans do not have a significant impact on life satisfaction in general. This result tends to confirm that loans represent a short-term benefit but have no lasting effect (because they will have to be repaid), which explains why this does not affect our life satisfaction indicator. Our result attest that payment arrears reduce financial and life satisfaction (H1.2). Arrears represent the type of debt that has the most negative effect on overall life satisfaction (–0.39; Table 5). It is less important than on financial satisfaction (–0.63; Table 5), which confirms the fact that life satisfaction includes elements other than economic dimensions. However, the financial concerns associated with late payments are significant enough to have an impact on all dimensions of life.

Having arrears has the most negative impact on both satisfaction indicators

Contrary to our initial assumption (H1.3), accumulating both types of debt does not affect life satisfaction more than having only arrears (–0.29 against –0.39; See Table 5).[15] When we examine the effect of accumulation more closely, by breaking down the different terms of the model (arrears, loans and the interaction term, i.e. joint presence of both), we see that the impact of arrears is central and highly significant.[16] However, the distinct effects of borrowing and cumulating debts are not significant.

We also observe a lesser effect of cumulation on financial satisfaction compared to arrears. It could be explained by the fact that taking a loan helps to alleviate the financial situation, at least for a certain period of time. This may also be due to that arrears prevail because of their unpredictability and difficulty in managing, with a legal framework that protects the indebted household less, as well as to the stress associated to this uncomfortable situation. In addition, subsequent analyses have shown that the accumulation of the two types of debt affects a very specific population, which is younger, less educated, with a higher proportion of foreigners, and above all with levels of satisfaction (with life in general and with the financial situation) already lower than normal, even before being in debt.

Older people and the more educated are most affected in their satisfaction

When we look at some certain social subgroups, we see that the older people and the more educated are most affected in case of arrears or accumulation. With arrears (Table 5), the impact is always greater for the oldest cohorts than the youngest (1979 and later) for both financial satisfaction (–0.23 for the intermediate group, –0.25 for the oldest) and life satisfaction (–0.09 for the intermediate group, –0.20 for the oldest). People with a higher education are also more impacted both in their financial satisfaction (–0.19) and in their life satisfaction (–0.08, at the limit of significance

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15   The difference should not be overemphasized, since interaction effects are not the same in the models and that all impacts are highly conditional. We conclude instead that the impact of arrears only on life satisfaction is similar to those of the accumulation of both types of debt.

16   The sole effect of arrears on life satisfaction is –0.29; p < 0.001.

Table 4   Fixed effects regression results: loans and SWB

	life satisfaction		financial satisfaction	
	Coef.	P > t	Coef.	P > t
age in years	−0.050	0.000	−0.085	0.000
squared age	0.000	0.000	0.001	0.000
activity rate 0–100	0.000	0.005	0.003	0.000
net household annual income, in 10 000 CHF	0.002	0.000	0.000	0.008
live as a couple	0.315	0.000	0.368	0.000
health status 1–5	−0.276	0.000	−0.146	0.000
health impediment 0–10	−0.031	0.000	−0.019	0.000
loans	−0.077	0.241	−0.339	0.000
men*loans	0.016	0.562	0.000	0.993
cohort*loans (ref. 1979 or younger)				
1959–78	0.047	0.158	0.154	0.001
1958 and before	−0.025	0.516	−0.004	0.936
Swiss citizenship*loans	−0.099	0.048	0.038	0.581
linguistic region*loans (ref. Swiss german)				
Swiss french	0.038	0.180	0.041	0.301
Swiss italian	0.027	0.614	−0.078	0.285
level of education*loans (ref. low)				
middle	0.075	0.077	0.107	0.069
high	0.043	0.340	0.127	0.042
income tertile*loans (ref. 1st tertile)				
2nd income tertile	0.030	0.376	0.003	0.947
3rd income tertile	0.040	0.274	0.040	0.432
intercept	9.809	0.000	8.842	0.000
n observations	118168		124918	
n individuals	19715		20466	
rsquare within	0.0379		0.0149	

with p = 0.09). For our two SWB indicators, income plays a protective role. Indeed, arrears have less negative consequences for the wealthiest third (0.21 for financial satisfaction and 0.13 for life satisfaction). Being of Swiss nationality also mitigates the negative effects of arrears on life satisfaction (0.22). Situations of accumulation generate consistent results since here again there is an aggravating effect for the oldest cohort (–0.18 but at the limit of significance: p = 0.08) for financial satisfaction and for life satisfaction in general (–0.26). People with a high level of education are also more affected in their life satisfaction (–0.24).

Table 5   Fixed effects regression results: arrears and SWB

	life satisfaction		financial satisfaction	
	Coef.	P > t	Coef.	P > t
age in years	−0.052	0.000	−0.083	0.000
squared age	0.000	0.000	0.001	0.000
activity rate 0–100	0.000	0.044	0.003	0.000
net household annual income, in 10 000 CHF	0.002	0.000	0.007	0.000
live as a couple	0.310	0.000	0.351	0.000
health status 1–5	−0.273	0.000	−0.140	0.000
health impediment 0–10	−0.033	0.000	−0.019	0.000
arrears	−0.392	0.000	−0.633	0.000
men*arrears	0.056	0.075	0.046	0.293
cohort*arrears (ref. 1979 or younger)				
1959–78	−0.093	0.016	-0.231	0.000
1958 and before	−0.203	0.000	−0.246	0.000
Swiss citizenship*arrears	0.217	0.000	0.042	0.606
linguistic region*arrears (ref. Swiss german)				
Swiss french	0.044	0.178	0.059	0.200
Swiss italian	0.062	0.357	0.087	0.356
level of education*arrears (ref. low)				
middle	−0.042	0.362	0.006	0.921
high	−0.083	0.087	−0.187	0.006
income tertile*arrears (ref. 1st tertile)				
2nd income tertile	−0.013	0.720	0.091	0.073
3rd income tertile	0.126	0.003	0.211	0.000
intercept	9.890	0.000	8.902	0.000
n observations	122 297		128 952	
n individuals	20 444		21 199	
rsquare within	0.0429		0.0249	

5.2.2 Temporal effects of debt (H2)

The temporal hypothesis is only partially confirmed because each additional year of debt has more negative effects on life satisfaction and financial satisfaction than expected. In any case, there is no habituation effect (Shen et al. 2014).

If the duration of loans has no significant impact on life satisfaction, which is in line with our assumption (H2.1), the same cannot be confirmed for financial satisfaction. Indeed, each additional year of loans reduces financial satisfaction (−0.10)[17]. Contrary to our hypothesis (H2.1), we can't define it as a planned debt with a constant effect. Even if the repayment terms and conditions appear to be more

17   Table and detailed results are available from the corresponding author upon request.

planned and managed than those related to payment arrears, the negative impact on financial satisfaction is present and must be considered.

The duration of arrears has also effects that are contrary to those expected (H2.2). The duration of arrears does not affect financial satisfaction, while the longer the duration of arrears, the lower the life satisfaction rate (–0.06 each year, at the limit of significance with p = 0.06).[18] In other words, arrears are the type of debt that most affects financial satisfaction but we can say here that the extra years do not worsen or improve the situation. In a nutshell, financial satisfaction is very deteriorated by the arrival of payment arrears but this negative effect is stable over time. In contrast, it can be observed that each additional year with arrears worsens life satisfaction, which confirms the overall and general negative effect of payment arrears on all dimensions of daily life (Tay et al. 2017). Being confronted with arrears for several years generates lasting and diffuse effects that go beyond the strictly economic domain, which makes it a particularly worrying situation.

Here again, the impact on life satisfaction is stronger (–0.10) for the oldest cohort (1958 and before) than the youngest (1979 and later). Over the years, income plays a protective role because arrears have less negative consequences on life situation for the wealthiest third (0,04 for each supplementary year).[19]

Given the lack of generic impact of the accumulation observed previously, the temporal effect of the accumulation of the two types of debt loses its interest because we do not expect this effect to be differentiated over time. Our analyses, whose results are not reported here, confirm this fact, thus contradicting our hypothesis (H2.3) and reinforcing the importance of arrears as a determining negative factor for SWB.

6   Discussion and conclusion

This study contributes to research on the effect of debt on satisfaction and more broadly on the financial determinants of SWB in several ways. First, we show that being in debt in Switzerland has a negative effect on evaluative SWB which tendentially increases over the years. In accordance with previous research (Fitch et al. 2011; Tay et al. 2017), we have identified that arrears is the type of debt that have the most negative impact on our two satisfaction indicators. Second, our analyses therefore put into perspective the supposedly particularly problematic effect of the accumulation of different types of debt, which is considered by the FSO and the

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18   This result is at the upper limit of significance, but if we consider a counter limited to 4 years instead of a counter increasing to infinity, the p-value decreases significantly, to reach 0.011, which leads us to consider this result as robust. If the theoretical difference may seem interesting between a time-limited counter and an unlimited one, in fact only a very marginal number of cases exceed 4 years of debt (0.1 to 0.3 % of cases). This leads us to consider these two types of counters as equivalent in practice.

19   As stated above, table and detailed results are available from the corresponding author upon request.

European Commission, for example, as a sign of over-indebtedness. Third, our study shows that the impact of debt on SWB is conditional on belonging in certain social subgroups, specially the elderly and the high level education person with debts are particularly affected. This can be explained by the effect of "social norms and comparisons" (Gathergood 2012) or "social stigmatization" (Georgarakos and Fürth 2015). In these groups, debt levels are low, therefore, being in debt can be difficult for individuals who consider themselves out of the ordinary or more stigmatized. However, not only risk but also protective factors come into play and contribute to explaining the change on SWB: both demographic factors (Swiss citizenship) and belonging to high income class clearly lower the negative impact of debt on SWB. Complementary analyses concerning the emotional dimension of the SWB (Wernli et al. 2020), i. e. the consequences of a debt situation on the frequency of positive and negative affects confirm these three results, especially for the elderly.

More broadly, these results have strong implications for policy makers. Apart from being attentive to particular subgroups, there is a key lesson to be learned in terms of debt prevention and debt relief measures to be put in place, namely that the warning signal must be given and actions taken as soon as payment arrears are present. It is important to underline that in Switzerland, nearly 19 % of the population lives in a household with at least one arrears, mainly tax and health insurance premiums[20] and that it is the most economically vulnerable population. Therefore, our results also underline the effect of the duration of arrears: life satisfaction deteriorate year after year with the debt burdens. This highlights a problematic aspect of debt management and debt reduction that is characterized by long-term trajectories and a use of debt counselling services that often occurs after several years of indebtedness (Schwarze 1999). For all these reasons, policy measures cannot be limited to consumer protection by restraining access to credit as is mainly the case in Switzerland, but they must also make advisory services more accessible and offer facilities to reduce debt and get out of debt in the same way as other European countries (Angel and Heitzmann 2015).

Finally, our analyses open up other questions that would require further research. We show that the effects of debt extend beyond the financial domain and that all domains of daily life are potentially concerned. However, further studies (e. g. a specific analysis of more satisfaction indicators or in-depth interviews with indebted people) would be needed to better understand the interrelationships between financial and life satisfaction and by extension the specific mechanisms by which debt influences all domains of life. Another issue to explore arises from the fact that debt is measured at the household level and satisfaction at the individual level. The link between a common economic situation and an individual subjective

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20 https://www.bfs.admin.ch/bfs/fr/home/statistiques/situation-economique-sociale-population/revenus-consommation-et-fortune/endettement.html (09.03.2020).
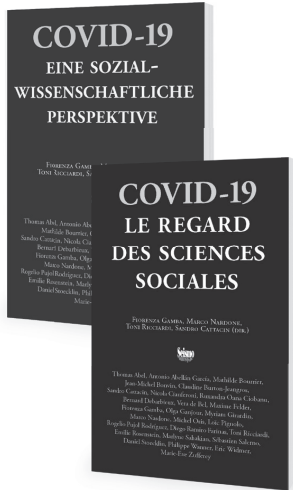
evaluation remains to be investigated. What are the mechanisms and factors within the household that influence the level of individual satisfaction?

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Does Subjective Well-Being Affect Political Participation?

Annika Lindholm*

Abstract: Subjective well-being (SWB) has been positively correlated with political activity, however the causality of the effect remains debated. By estimating within-individual effects, I show that SWB decreases protest intentions, while its effect on voting is not significant. Despite the mutual influence between SWB and protest, the results suggest that the influence of SWB on protesting is stronger than the reverse effect, thereby setting an agenda for future research in this domain.

Keywords: political participation, political protest, subjective well-being, fixed effects, causality

Le bien-être subjectif affecte-t-il la participation politique ?

Résumé: Le bien-être subjectif (SWB) a été corrélé positivement avec l'activité politique, mais la causalité de l'effet reste discutée. En estimant des effets intra-individuels, je montre que SWB diminue les intentions contestataires, alors que son effet sur le vote n'est pas significatif. En dépit de l'influence réciproque entre SWB et la contestation, les résultats suggèrent que l'influence de SWB sur la contestation est plus forte que l'effet inverse, établissant ainsi un agenda de recherche future dans ce domaine.

Mots-clés: participation politique, contestation politique, bien-être subjectif, effets fixes, causalité

Beeinflusst subjektives Wohlbefinden die politische Partizipation?

Zusammenfassung: Das subjektive Wohlbefinden (SWB) korrelierte bislang positiv mit politischer Aktivität, die Kausalität des Effekts bleibt jedoch umstritten. Mittels Schätzung intra-individueller Effekte zeige ich, dass das SWB die Absicht, an Protesten teilzunehmen verringert, während es sich nicht signifikant auf die Abstimmungsteilnahme auswirkt. Trotz der gegenseitigen Beeinflussung von SWB und Protest deuten die Ergebnisse darauf hin, dass der Einfluss des SWB auf das Protestieren stärker ist als der umgekehrte Effekt, und legen somit eine Agenda für zukünftige Forschung in diesem Bereich fest.

Schlüsselwörter: politische Partizipation, politischer Protest, subjektives Wohlbefinden, fixe Effekte, Kausalität

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1   Explaining participation from a well-being framework

1.1   Introduction

This research sheds light on the mechanism that connects subjective well-being (SWB) and political engagement. Previously, research on participation strongly focused on the role of personal resources, notably time, money, or civic skills (Barnes et al. 1979; Brady et al. 1995; Stolle and Hooghe 2011), or on mobilising contextual factors (Verba et al. 1987; Rosenstone et al. 1993; Dalton 2006), in explaining inter-individual differences in political activity. Meanwhile, it is increasingly recognised that political engagement does not only stem from the available opportunities or the (objective) resources that individuals have at their disposal, but it is also likely affected by individual psychological factors, which may become additional resources, or obstacles, for participation (Taylor et al. 2000; Hobfoll 2002). There is a pressing need to further investigate into the psychological explanations to why some people choose to take part in political activities, while others opt out.

SWB is considered a psychological state that influences both public and private life (Veenhoven 2008), in addition to having intrinsic and instrumental value of its own (Samman 2007). SWB has been found to be positively correlated with political participation in several studies (e. g. Klar and Kasser 2009; Flavin and Keane 2011; Weitz-Shapiro and Winters 2011; Bühlmann 2016), yet much of the existing research uses cross-sectional methods to test a relationship that has often been assumed to run from participation to higher well-being (Frey and Stutzer, 2000; Radcliff 2001; Klar and Kasser 2009; Pacheco and Lange 2010; Bühlmann 2016). Only a few studies have systematically tested whether political participation favours the development of SWB, or if SWB instead nurtures participation (exceptions include Weitz-Shapiro and Winters 2008, 2011; Pirralha 2017).

1.2   Aim

This research contributes to filling the gaps in the literature by examining individual trajectories of well-being and political engagement in Switzerland, thereby clarifying the causal mechanism between the two. The Swiss case is appropriate for testing this relationship, due to direct democracy and the federal structure of the country that encourage active citizen involvement in monitoring political processes (Frey and Stutzer 2000; Dorn et al. 2008). In addition, access to high-quality, longitudinal Swiss data on individual well-being and participation patterns brings a clear advantage to the present study in examining causality compared to previous research efforts in the domain.

By using Swiss Household Panel (SHP) data, this study elucidates the relationship between SWB and participation, and proposes to answer the following: how does SWB affect individual political engagement? And is this influence stronger than the impact of participation on SWB? Firstly, the study argues that from a conceptual

point of view, it is likely that SWB precedes and affects the decision to participate, instead of only being an outcome of political activity. Secondly, it discusses how the influence of SWB is likely to vary across political activities, by having a spurring effect on formal political participation and having a dampening effect on protest intentions. Finally, the reciprocal effects between SWB and political engagement are empirically tested.

2   Linking SWB and political participation

2.1   Measuring SWB

How we feel about ourselves and our lives influences how we behave in the public sphere. This statement has paved the way for SWB to become a societal and a *political* issue (Carpenter 2012). SWB influences attitudes, motivations, and preferences (Diener 1984; Veenhoven 2008). Some of them are political, explaining why there is a rationale to expect that SWB impacts the willingness to participate in political processes.

While a state of feeling well is intuitively recognised by most of us, different approaches have been applied across disciplines in order to understand and define human well-being. In economics, SWB is compared to utility in explaining human behaviour and preferences (Dolan et al. 2008; Frey and Stutzer 2010), while sociologists consider SWB as an individual psychological state that explains social behaviour at the collective level (Diener et al. 1993), and positive psychology sees it as an indicator of optimal human functioning and thriving (Diener 2000, 2012; Oishi et al. 2007). Despite these different approaches, SWB has often been measured through self-reporting in surveys, due to the inherently personal nature of the construct. Likert scales of general life satisfaction or happiness are widely used across disciplines to measure SWB in national and comparative surveys.

Life satisfaction captures a global assessment of the quality of life, as opposed to any domain-specific evaluations, and it is based on comparisons that persons make against their own standard, instead of being externally imposed (Diener et al. 1985). Meanwhile, as informative as the life satisfaction scale is, SWB is increasingly recognised as being a multi-dimensional concept. General life satisfaction is a retrospective construct that measures only the *evaluative* dimension of SWB (Diener et al. 1985; Veenhoven 2008; Jeffrey et al. 2015).

A second, *emotional* dimension of well-being is composed of the positive and negative emotions that persons experience in daily life. Positive emotions can be experiences such as joy, energy, and enthusiasm, while negative emotions entail anger, anxiety, sadness, and related feelings. Emotional well-being is influenced by mood and is therefore less stable in time than other well-being dimensions (Diener

2000; Diener et al. 2003).[1] However, emotional well-being has also been described as a measure of the "emotional quality" (Kahneman and Deaton 2010) of everyday experiences, and their frequency and intensity.

Research has drawn different conclusions on the relationship between SWB and political participation depending on the SWB dimension under analysis (see e. g. Flavin and Keane 2011; Bühlmann 2016). It is therefore appropriate to differentiate between SWB dimensions when explaining the linkages between well-being and political activity (these differences are discussed in chapters 2.4–2.6). Likewise, it is necessary to consider how SWB relates to different types of political activity and, in the context of this study, the opportunities in Switzerland to exert political influence.

2.2   Formal and protest-oriented political activity

Despite that voting is still a cornerstone of citizen participation in politics in most established democracies, other political activities have been gaining importance in recent decades with the increasing aggregate levels of education and political sophistication of the citizenry (Inglehart 1997; Stolle and Hooghe 2011). Several typologies of political participation have been proposed over the years (Verba and Nie 1972; Barnes et al. 1979; Dalton 2006; Van Deth et al. 2007; Marien et al. 2010), distinguishing activities by the mechanism that triggers participation, the nature of the act, or the goal of the activity. Formal political activities [2] aim to influence political decision-making from *within* the political system in place (Ekman and Amnå 2012). In addition to electoral participation and voting in popular votes or referenda, party membership, contacting a politician, or campaigning are considered formal participation. Protest participation, on the other hand, aims to influence decision-making from outside the established political system (Kaase 1999; Cornwall 2004; Hooghe and Marien 2013). Protest activities, such as strikes, boycotts, or demonstrations, use disruptive tactics to exert political influence.

2.3   Political participation in Switzerland

The Swiss political system is unique in its widespread use of direct democracy and the federal structure of the country that enables Swiss citizens to cast a ballot, in addition to elections, several times per year through popular votes. The Swiss are called on approximately four times a year to vote and are invited to vote on 15 federal

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1   Research has also referred to eudemonic well-being, which relates to feelings of psychological empowerment (Zimmerman and Rappaport 1988; Bühlmann 2016), personal mastery, and a sense of being in control over one's life, as well as to social well-being, which entails, for example, being embedded in strong social networks and receiving emotional support when needed (Keyes 1998). These two other dimensions of well-being, as important as they are to a good life, will not be the focus of this research, mainly due to data availability in the SHP.

2   In addition to federal votes, citizens decide on a number of municipal and cantonal issues every year.

proposals per year on average.[3] Another unique feature of electoral participation in Switzerland is the significantly lower voter turnout than in most other Western democracies, both with regard to elections and popular votes. One possible explanation to the low intensity of voter participation is 'voter fatigue', as citizens are called on many times a year to vote on a full range of local, cantonal, and federal issues (Jackman and Miller 1995; Ladner 2002). On the other hand, small-scale democracy is thought to favour turnout, due to greater accessibility and understanding of the decision-making processes, stronger identification with the matters at hand, and the greater influence of social control (Dahl and Tufte 1973; Ladner 2002).

Protest participation in Switzerland is moderately common at the European level, yet protesting is, possibly with the exception of boycotting, less widespread than in neighbouring France, Italy, or Germany (Quaranta 2013). Compared to neighbouring countries, the lower eagerness to protest in Switzerland could be explained by direct democracy (Fatke and Freitag 2013), which give citizens ample opportunities to contest political decisions through formal channels of participation. Nevertheless, research has argued that a moderate resurgence of protest participation has taken place in the Swiss political landscape since the early 2000s (Hutter and Giugni 2009).

2.4 Causality between SWB and political participation

Earlier research has found positive associations between different dimensions of SWB and voting in elections (Weitz-Shapiro and Winters 2011; Bühlmann 2016; Liberini et al. 2017), working in parties and campaigning (Flavin and Keane 2011), and political activism (Klar and Kasser 2009). Despite the merits of these efforts to shed light on the linkages and synergies between SWB and political behaviour, research in the domain is still in its infancy. Specifically, past research remains inconclusive on whether political activity enhances well-being, whether well-being leads to participation, or whether a feedback effect is the most likely.

A major limitation in the literature is that most research in the domain relies on cross-sectional analysis. The few studies that explicitly test for causality between SWB and participation have found mixed evidence (e. g. Weitz-Shapiro and Winters 2008, 2011; Pirralha 2017). By using Dutch panel data, Pirralha (2017) discovered that SWB and participation were not significantly related, whereas Weitz-Shapiro and Winters (2008, 2011) tested the relationship in Latin American countries and showed that it is likely to go from SWB to participation.[4] in Latin American countries and showed that it is likely to go from SWB to participation.[5]

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3   In addition to federal votes, citizens decide on a number of municipal and cantonal issues every year.

4   The authors used quasi-experimental methods and sophisticated regression modelling, contrary to panel data.

5   It is worth mentioning the seminal work by Frey and Stutzer (2010), and the research by Dorn and his colleagues (2008), which uses longitudinal data to test the effect of institutions of direct

While cross-sectional studies are in a less favourable position to infer causation, many of them argue that political participation would positively influence SWB on a conceptual level, mainly through the positive effects that participation has on the sentiment of individual competence, efficacy, and a sense of belonging and contributing to society (e. g. Klar and Kasser 2009; Pacheco and Lange 2010; Bühlmann 2016). These findings reflect a long-standing tradition in political theory that views the act of participating in the political process as valuable in creating procedural utility to the individual citizen and thereby having a positive effect on quality of life (Dreze and Sen 2002; Weitz-Shapiro and Winters 2008).

This dominant view has, however, been challenged (Oishi et al. 2007); especially in view of the scarce longitudinal evidence in support of the argument, it is not conceptually straightforward to assume that causality would run from political participation to SWB. Why would the sole act of participating in a political act, which most people only do by voting on occasion, have such general effects on SWB? And why would a political act lead to higher SWB when the objective of the activity is in many cases not fulfilled (Bühlmann 2016)?

In addition, considering the evidence of how poor (physical) health decreases political activity (Denny and Doyle 2007; Mattila et al. 2013; Pacheco and Fletcher 2015), one may draw parallels with the influence of SWB on political participation. Since the inverse relationship (i.e. that abstention from political activity would deteriorate health) hardly seems plausible, one may wonder if opting out of political activities would really decrease SWB. Claiming that political participation necessarily precedes SWB does not only leave these questions unanswered, but it also ignores the psychological processes that precede the choice to participate in political activities.

Due to these considerations, it is conceptually likely that SWB precedes political participation. It is arguable that the relationship is characterised by reciprocal effects; however, while participation can enhance SWB through sentiments of efficacy and belonging to society, it is likely that SWB affects whether or not persons participate in the first place. Therefore, it is expected that *SWB precedes and affects individual political engagement (H$_1$)*. In chapters 2.5 and 2.6, this study will discuss in depth the influence of SWB on political activity.

2.5   SWB as a resource for formal political participation

SWB can be considered as a psychological resource for the purpose of political participation, due to its positive influence on self-efficacy and motivation to invest time and effort into political activities (Sahu and Rath 2003). Conversely, not feeling well in life has a tendency to lessen motivation and efficacy, and thereby depress participation (Ojeda 2015). The influence of SWB can be understood as being similar to

democracy on well-being in Switzerland, and finds that direct democracy enhances SWB among the Swiss. However, the focus of these studies has been on the linkages between SWB and the political context of the country, instead of actual participation by individuals.

the effect of physical health on participation; even if low well-being does not create a physical obstacle to participate in the way poor physical health may (Denny and Doyle 2007; Mattila et al. 2013), not feeling well in life is psychologically burdensome and energy-consuming to deal with for the individual, and consequently affects the ability to engage in societal activities, such as political acts.

Considering the question from the perspective of Maslow's motivational theory (Maslow 1954), while the fulfilment of any aspect of human needs contributes to overall well-being, self-actualisation tends to only be achieved at moderate to high levels of well-being (Hagerty 1999; Koltko-Rivera 2006; Tay and Diener 2011). The act of pursuing higher societal and personal goals through political engagement can undoubtedly be considered as self-actualisation, and thus more likely to occur when individuals are feeling good about the other, more fundamental aspects of their lives (Inglehart and Welzel 2005; Veenhoven 2008).

Most current evidence of the relationship between SWB and political activity has argued for a positive influence on formal political participation specifically (e. g. Lyubomirsky et al., 2005; Flavin and Keane 2011). *It is therefore expected in this study that SWB increases formal political participation (H2).*

2.6 Negative emotions increase political protest

Meanwhile, SWB may not have the same favourable effect on political protest. In fact, it can be argued that SWB dampens political protest, since negative emotions tend to precede protest activities. Studies have found that negative emotional appraisals[6] are more influential on protesting than cognitive comparisons that individuals draw against a standard (Van Zomeren et al. 2008), making the *emotional* dimension of SWB a better predictor of protesting than life satisfaction. In social psychology, emotions and appraisals have become increasingly popular explanations for why persons protest (Van Troost et al. 2013). They been described as "accelerators" in the process of joining protest movements and as "amplifiers" of motivations to protest (Van Stekelenburg and Klandermans, 2013, 892), due to their influence on social perceptions and information-processing (Bodenhausen et al. 1994; Clark 2014). Persons protest to express frustration and injustice that they perceive (Lind and Tyler 1988; Dalton et al. 2010; Van Stekelenburg and Klandermans 2013).[7] It is therefore expected that *SWB decreases protest intentions (H₃).*

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6   The appraisal theory in psychology argues that emotions are extracted from our evaluations of situations and can cause different reactions between persons (Scherer et al. 2001).

7   Among negative emotions, anger is thought to have the strongest action potential (Van Stekelenburg et al. 2011; Van Troost et al. 2013). A specific question on anger was introduced to the SHP questionnaire in 2006 (wave 8), which restricts the analysis of the effect of anger on protesting to three waves only (8–10). In this time span, the analysis showed no significant intra-individual effects.

3   Data and methods

3.1   The sample

The three hypotheses stated above will be tested in SHP data. Conducted since 1999, the SHP is an annual panel study based on a stratified random sample of private households and individuals living in Switzerland. All household members are interviewed mainly by telephone[8] (Voorpostel et al. 2018). An advantage of testing the hypotheses in a single country instead of using cross-cultural data is that it helps to avoid common pitfalls related to country-specific political contexts (Hantrais 1999) and cultural differences in evaluating SWB (Diener 2000, 2012; Frey and Stutzer 2000).

The analytical sample includes nine waves (waves 2 to 10, years 2000-2008) and consists of some 25 100 person-years nested within 2790 respondents. The population and the timeframe are based on the availability of data on protest intentions.[9] The population sample was drawn in 1999 (SHP I), and respondents who participated in 2000, and in any of the subsequent waves until 2008, are included in the analysis. Only adult Swiss citizens were considered for reasons of comparability between formal and protest participation.

3.2   The measures

SWB is measured through two dimensions: life satisfaction (evaluative SWB) and the frequency of positive and negative emotions (emotional SWB). Life satisfaction (In SHP: "In general, how satisfied are you with your life?") is a standard measure of SWB in surveys and has been found to have high internal consistency and temporal reliability (Diener et al. 1985).

The Positive and Negative Affect Schedule (PANAS) (Watson et al. 1988) measures emotional SWB. The PANAS comprises of two scales, one measuring positive emotions (In SHP: "Are you often plenty of strength, energy and optimism?") and the other negative emotions (In SHP: "Do you often have negative feelings, such as having the blues, being desperate, suffering from anxiety or depression?").[10] Both scales represent distinct aspects of emotional well-being, which is underlined by the moderate bivariate correlation ($r = -0.49$ in the data). Moreover, the PANAS

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8   Since 2010, face-to-face interviews and web-based surveys have been offered as alternatives for respondents who refuse or are reluctant to respond by telephone.

9   Since data on formal participation was collected until 2017 (except for years 2010, 2012–2013 and 2015–2016), the analysis was also conducted at a second stage on the entire available time span (2000–2017). The main results were robust (see results in Annex A2).

10   The PANAS questionnaire identifies over 50 mood terms relevant for either scale (Watson et al. 1988), and the SHP questions explicitly mention only a few of them. However, the SHP question formulation allows respondents to associate additional related emotions to their answers than those that are explicitly asked for.

scales have been shown to be internally consistent and stable at intermediate time spans (Watson et al. 1988).

Formal and protest engagement are measured by the usual frequency of participation in federal popular votes (In SHP: "Let's suppose that there are 10 federal polls in a year. How many do you usually take part in?"), and by future *intentions* of boycotting, striking, and demonstrating (In SHP: "If 0 means 'never', and 10 'certainly'[...] to what extent, in the future, you are prepared to take part in a [boycott/strike/demonstration]?").

Both the SWB and the political activity measures have slightly to moderately asymmetrical distributions.[11] Robustness checks suggest, however, that the data structure is not problematic for the use of OLS techniques in the analytical models.[12] The asymmetries are fairly common in survey data: negative emotions may be moderately underreported due to influences of social desirability (Kozma and Stones 1987; Diener 1994), and voting is widely considered to be sensitive to over-reporting (e.g. Silver et al. 1986). In the SHP, 74% of persons reported in at least one wave to participate in all popular votes, and less than 10% declared to never vote. These numbers deviate significantly from official turnout statistics, which averaged 44% in the 2000–2008 period (FSO 2019). Protest intentions are less skewed than voting, yet 57% of persons declared at least once to never consider boycotting, 66% to never consider striking, and 56% to never consider demonstrating. At the other extreme, 39% of respondents reported at least once to certainly considering boycotting, compared to 26% for striking, and 30% for protesting. In this context, it is important to recall that panel attrition may particularly affect the analysis of political participation, since persons who stay in the panel tend to also be more politically active (Voorpostel et al. 2018).

3.3 The method

Fixed-effects OLS regressions are estimated in the data to encounter for within-individual change in SWB and political activity, and to identify potential causal effects. The fixed-effects model is essentially a multilevel model where observations are nested within individuals, and where the fixed-effects coefficient expresses the variation over time in the individual-specific mean of a construct. An advantage of fixed-effects models is that they get rid of time-constant heterogeneity between individuals that may be correlated with the outcome, thereby making self-selection into treatment no longer an issue (Allison 2009). In this way, fixed-effects estimation provides a significant advantage over other methods in order to estimate the causal effect of a predictor on an outcome. When estimating individual change,

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11   Skewness: life satisfaction: −1.01; negative emotions: 1.24; positive emotions: −0.99; voting: −1.48; boycotting: 0.16; striking: 0.49; demonstrating: 0.27.

12   The models were tested by applying log transformation on the dependent variables and by z-standardising the predictors, which did not change the substantive conclusions of the results.

one shall recall that the error terms are likely to correlate within individuals across time. Therefore, the standard errors reported in the models are panel-robust, i.e. clustered by respondents.

3.4   The covariates

The models control for the influence of sociodemographic confounders and political attitudes. It is widely acknowledged that objective resources, such as education and income, positively influence political engagement, and may also be related to SWB (Witter et al. 1984; Diener et al. 1993; Brady et al. 1995; Kahneman and Deaton 2010). Income is measured subjectively (i.e. satisfaction with the financial situation of the household), as it can be considered a better proxy of the quality of life than objective income measures (Ackerman and Paolucci 1983), in addition to being less sensitive to item non-response. It is worth noting that, since fixed-effects models only use within-individual variation to estimate effects, the influence of time-constant characteristics, such as gender or social origin [13], cannot be estimated by these models; on the other hand, the models implicitly control for the influence of these time-constant traits (Allison 2009).

Among political attitudes, the models control for left-right self-identification, political trust, satisfaction with democracy, and self-perceptions of political influence. These attitudes are likely to influence whether individuals participate through formal channels of political activity, through protest acts, or whether they abstain from taking part altogether (Kaase 1999; Van Deth et al. 2007).

Finally, the models control for wave-effects, in order to account for the influence of the political context on political engagement in specific years. For instance, the overall political climate may encourage protesting in certain years, and also spur or dampen participation in popular votes, depending on the perceived importance of the topics voted on.

4   Empirical results and discussion

4.1   Bivariate relationship

Cross-sectional analysis of the data gives a first indication of the bivariate relationship between SWB and political engagement. Voting is positively correlated with life satisfaction ($\rho = 0.11$) and positive emotions ($\rho = 0.06$), while having a negative relationship with negative emotions ($\rho = -0.09$). Among protest intentions, SWB is negatively correlated with boycotting ($\rho = -0.09$ for life satisfaction, $\rho = -0.06$ for positive emotions, and $\rho = 0.08$ for negative emotions), striking ($\rho = -0.11$ for life

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13   The models were also tested separately for robustness by gender, and by parents' social origin (by dual profession categories: unskilled vs. skilled). These analyses did not alter the substantive conclusions of the results.

Table 1   Cross-sectional summary of variables, SHP 2000–2008

Variable	Mean	Std. Dev.
Voting in federal popular votes	8.03	2.81
Future boycott intentions	4.28	3.66
Furure strike intentions	3.50	3.53
future demonstration intentions	4.00	3.54
Life satisfaction	8.06	1.35
Negative feelings	1.92	1.97
Positive feelings	7.39	1.70
Satisfaction with financial situation	7.36	1.95
Feeling of political influence	3.96	2.52
Left-right self-identification	4.65	2.07
Trust in the Federal Governement	5.65	2.03
Satisfaction with democracy	6.13	1.79
Education, 3 levels	%	
low	10	
mid-level	66	
high	24	
n(individuals): 2790		

Note: Statistics for period-indicators (waves) are not shown. All variables are scales (0–10) except for education, which is a categorical indicator.

satisfaction, $\rho = -0.07$ for positive emotions, and $\rho = 0.11$ for negative emotions), and demonstrating ($\rho = -0.10$ for life satisfaction, $\rho = -0.06$ for positive emotions, and $\rho = 0.12$ for negative emotions). While the correlations are moderate in magnitude, all associations are statistically significant at the 0.05–level and have the expected direction.

4.2   Fixed-effects models

A main purpose of this study is to shed light on the direction of the causality between well-being and political engagement. For that purpose, table 2 displays the standardised fixed-effects estimators (FE), their standard errors and significance for SWB and political activity retrieved from models that estimate the influence of SWB on political engagement, as well as the reverse causal relationship. The results can be compared by systematically reversing the dependent and independent variables between the models; in other words, by estimating the effect of SWB on political activity, and comparing the results to the effect of participation on SWB. By standardising the coefficients, the relative effects of SWB and political activity can be compared. To maximise comparability, all models include the same control variables; only the outcome and the main independent variables (either SWB or

Table 2 Fixed-effects estimators of SWB and political engagement; two directions of causality

Predictor at T		Outcome at T	FE (std.)	SE
Life satisfaction	→	Voting	−.0056	.0068
Voting	→	Life satisfaction	−.0056	.0136
Negative emotions	→	Voting	−.0001	.0066
Voting	→	Negative emotions	−.0006	.0134
Positive emotions	→	Voting	.0043	.0054
Voting	→	Positive emotions	.0111	.0138
Life satisfaction	→	Boycott intentions	−.0006	.0075
Boycott intentions	→	Life satisfaction	.0049	.0103
Negative emotions	→	Boycott intentions	.0106	.0077
Boycott intentions	→	Negative emotions	−.0083	.0104
Positive emotions	→	Boycott intentions	.0095	.0067
Boycott intentions	→	Positive emotions	.0199	.0119
Life satisfaction	→	Strike intentions	−.0065	.0073
Strike intentions	→	Life satis faction	−.0191	.0116
Negative emotions	→	Strike intent ions	.0186*	.0073
Strike intentions	→	Negative emotions	.0219	.0113
Positive emotions	→	Strike intentions	−.0033	.0061
Strike intentions	→	Positive emotions	−.0301*	.0129
Life satisfaction	→	Demonstration intentions	.0011	.0072
Demonstration intentions	→	Life satis faction	.0013	.0117
Negative emotions	→	Demonstration intentions	.0234***	.0070
Demonstration intentions	→	Negative emotions	.0252*	.0115
Positive emotions	→	Demonstration intentions	.0069	.0058
Demonstration intentions	→	Positive emotions	.0084	.0124

Note: FE = standardised fixed-effects estimators. Standard errors (SE) are panel robust. Significance levels: *p < 0.05; **p < 0.01; ***p < 0.001.

activity/intention) are exchanged between the models. The full results of the models are displayed in Annex A1.

4.3 SWB and formal political participation

Contrary to expectations, the results in Table 2 suggest that SWB does not significantly affect individual voting habits, irrespective of the SWB dimension under consideration. Meanwhile, the results show no evidence that voting would increase SWB, contrary to what has been assumed in previous work on the link between participation and well-being (e. g. Frey and Stutzer 2000; Dolan et al. 2008; Pacheco and Lange 2010). This is noteworthy, as it challenges the dominant view in literature that claims that political participation would produce utility for the individual and

thereby favour SWB. The analysis suggests that SWB and voting are only weakly related, thereby reflecting the conclusions of previous studies (Weitz-Shapiro and Winters 2011; Pirralha 2017). By consequence, the expectations laid out in H2 and H1 cannot be confirmed with regards to formal political participation.

A possible explanation to this unexpected result relates to the limited change in individual voting habits, and the preponderance of differences between individuals in the panel. The differences in voting between individuals are considerable, explaining up to 79% of the variance in the model (rho = 0.79), yet this variation does not contribute to identifying the causal effect of SWB on voting. Furthermore, a descriptive analysis of the sample preliminarily indicates that individual voting habits stay relatively stable in the panel: among the 74% who ever reported participating in all popular votes, nearly 70% do not change their response over time. It indicates that persons in the panel who vote regularly will continue to do so, irrespective of changes in their SWB, thus reflecting the conclusions of earlier research on the strong habit-forming effect of previous voter participation (Gerber et al. 2003; Cutts et al. 2009).

4.4   SWB and protest intentions

The results align better with the expectations of H_3, showing that negative emotions significantly increase protest intentions. The magnitude of the effect is moderate but statistically significant for two of the three protest forms: a unit increase in negative feelings increases individuals' strike intentions by 3 percentage points on average (B = 0.033; β = 0.019; p < 0.05), and their readiness to demonstrate by 4 percentage points (B = 0.042; β = 0.023; p < 0.001). By contrast, the effect of SWB on boycott intentions does not reach statistical significance, which is an interesting contrast to the two other protest forms. The difference may be related to the distinct nature of boycotting compared to striking and demonstrating, as boycotting also entails political consumerism that is strongly related to lifestyle politics, and less related to direct contentious action (Stolle et al. 2005). However, further analysis, beyond the scope of this study, is needed to confirm this assumption.

Meanwhile, the results also show a reverse effect. Demonstration intentions increase negative emotions by 1.4 percentage points (B = 0.014; β = 0.025, p < 0.05), and strike intentions decrease positive emotions by 1.5 percentage points (B = −0.015; β = − 0.030, p < 0.05). The difference in the magnitude of the effect of demonstration intentions on negative emotions (β = 0.025) compared to the reverse effect (β = 0.023) is small, yet the significance test show stronger evidence in favour of emotions preceding intentions than the other way around. In addition, there is no evidence of a significant effect of striking intentions on negative emotions, by contrast to the reverse effect (B = 0.019; β = 0.007, p < 0.05).

The depressing effect of strike intentions on positive emotions is, however, remarkable, especially since the reverse effect is not significant and also considerably

smaller in magnitude (β = –0.030 vs. β =–0.003). While suggesting that strike intentions indeed precede SWB, the association between positive emotions and protest intentions remains negative, irrespective of the causal direction under consideration. These results align with studies arguing that participation in political protest would be negatively correlated with well-being (Klar and Kasser 2009), and echo previous research on the importance of emotions in explaining protesting (Bodenhausen et al. 1994; Van Stekelenburg and Klandermans 2013; Van Troost et al. 2013), while also resulting from protest (Jasper 1998).

4.5   Assessing causality

The results of the analysis indicate that the nature of the underlying causal mechanism between well-being and political protest is most likely reciprocal: negative emotions increase protest intentions, and these intentions, to a certain extent, decrease well-being. This conclusion reflects a conceptualisation of the link as a "feedback"mechanism for which some scholars have argued (Oishi et al. 2007; Weitz-Shapiro and Winters 2011). In broad terms, the analysis shows stronger evidence of SWB decreasing demonstration intentions than the other way around. However, the evidence is mixed for strike intentions, as these do not only seem to result *from* negative emotions, but they also result *in* fewer positive emotions. For these reasons, the evidence in favour of SWB as a predictor of protest intentions is not conclusive enough to reject the null hypothesis (H_1).

A limitation of the chosen approach is that it does not account for the stability of the constructs across time. The cross-lagged panel design has become popular for the estimation of autoregressive and reciprocal effects (Selig and Little 2012). However, cross-lagged panel models do not separate between inter- and intra-individual change; while the parameter estimates are affected by changes within individuals, they are not specific to relationships within persons (Selig and Little 2012). In other words, one cannot separate between effects that stem from differences between and within individuals. This is a major drawback for the aims of this research, given that differences between individuals explain the majority of the variance (between 66% for boycott and 79% for voting), and confounding between inter- and intra-person variance would seriously compromise the ability to identify individual-level causal effects. The cross-lagged panel model is therefore less appropriate for the present study.

5   Conclusions

5.1   SWB decreases protest, and protest decreases SWB

This research contributes to the literature on the psychological explanations of political activity by examining the effect of SWB on formal and protest-oriented political engagement within individuals over time. The results show that SWB

decreases protest intentions, thus reflecting earlier research that consider negative emotions to be important predictors of protesting (Bodenhausen et al. 1994; Van Troost et al. 2013). A causality test further indicates that the relationship between SWB and protest intentions is likely reciprocal. Despite the analysis suggesting that the effect of SWB on protest intentions is stronger than the reverse effect, further empirical testing would be welcome before confirming this assumption. Meanwhile, the results show no effect of SWB on formal participation, contrary to the expectations, thereby aligning with previous panel studies on the relationship (e. g. Pirralha 2017). In the absence of any significant reverse effects, the findings of this study challenge previous research that consider political engagement to favour the development of SWB (e. g. Frey and Stutzer 2000; Dorn et al. 2008; Pacheco and Lange 2010), and indicate that future studies should carefully evaluate the expected causal relationship between well-being and political activity.

5.2 A well-being gap in political decision-making?

We have witnessed in the last decades a growing scholarly attention to SWB and its influence on citizen's engagement in politics. The importance of the topic is underlined by the potential political consequences of SWB; if SWB is recognised as a predictor of political participation, it could in principle decrease participation among citizens with low SWB and potentially engender a well-being gap in democratic decision-making.

Due to the absence of any significant relationship between SWB and formal participation, this research relativises the risk of a political well-being gap in Swiss society. Meanwhile, considering that SWB does affect individual readiness to engage in contentious political acts, one may ask to what extent increasing *malaise* among the population could result in actual contentious behaviour. Under which conditions do these *latent* forms of protesting turn into actual political protest? And can the occurrence of protest waves in Swiss society be traced back to changes in individual's SWB? Future research in this regard would be welcome in order to better understand the extent to which SWB contributes to protest events in Switzerland.

Finally, the recognition that SWB is linked to political protest has consequences on how policy-makers perceive the role of well-being in society, taking it out from the private sphere and also making well-being a *political* affair. By consequence, attention should be paid to citizen's SWB in anticipating and understanding protest that may turn from latent intentions to manifest behaviour in society. Meanwhile, paying attention to a citizen's well-being does not seem to be a fix for low turnout in a time when the legitimacy of the democratic institutions is increasingly contested in most established democracies, including Switzerland. The linkages between SWB and political engagement remain relevant both for scholarly purposes and from a policy-making point of view.

6   References

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7 Appendix

Table A1 Full results of fixed-effects models in Table 2

Fixed effects OLS regression models, 2000–2008	DV: Voting		DV: Boycott intentions		DV: Strike intentions		DV: Demonstration intentions		DV: Life satisfaction		DV: Negative emotions		DV: Positive emotions	
	FE	SE	FE	SE	FE	SE	FE	SE	FE	SE	FE	SE	FE	SE
Political participation														
Voting in federal popular votes, per year (0–10 times)	–	–	–	–	–	–	–	–	–.0056	.0136	–.0006	.0134	.0111	.0138
Boycott intentions (0 never–10 certainly)	–	–	–	–	–	–	–	–	.0049	.0103	–.0083	.0104	.0199	.0119
Striking intentions (0 never–10 certainly)	–	–	–	–	–	–	–	–	–.0191	.0116	.0219	.0113	–.0301*	.0129
Demonstration intentions (0 never–10 certainly)	–	–	–	–	–	–	–	–	.0013	.0117	.0252*	.0115	.0084	.0124
Subjective well-being														
Life satisfaction (0 low–10 high)	–.0056	.0068	–.0006	.0075	–.0065	.0073	.0011	.0072	–	–	–	–	–	–
Negative emotions (0 never–10 always)	–.0001	.0066	.0106	.0077	.0186*	.0073	.0234***	.0070	–	–	–	–	–	–
Positive emotions (0 never–10 always)	.043	.0054	.0095	.0067	–.0033	.0061	.0069	.0058	–	–	–	–	–	–
Covariates														
Education, highest level attained (Swiss classification) (ref: post-obligatory degree)														
Low (compulsory education only)	.1137	.0689	.0416	.0586	.1853***	.0508	.1330**	.0481	–.0491	.0676	.1739*	.0783	–.1310*	.0634
High (tertiary level)	–.0308	.0396	–.0678	.0427	–.0533	.0382	–.0416	.0443	.0671	.0484	–.0740	.0435	.0898*	.0455
Satisfaction with financial situation (0 low–10 high)	–.0008	.0066	–.0089	.0078	–.0159*	.0075	–.0034	.0072	.2091***	.0112	–.0760***	.0095	.0929***	.0097
Left-right self-positioning (0 left–10 right)	.0055	.0084	–.0303***	.0090	–.0442***	.0087	–.0305***	.0083	.0057	.0110	.0150	.0105	–.0216	.0128
Feeling of personal political influence (0 low–10 high)	.0339***	.0059	.0268***	.0075	.0400***	.0071	.0319***	.0068	–.0009	.0086	–.0015	.0086	.0066	.0097
Trust in Federal Government (0 low–10 high)	.0206**	.0078	–.0103	.0087	–.0158	.0085	–.0106	.0080	.0094	.0103	.0093	.0101	.0225	.0115
Satisfaction with democracy overall (0 low–10 high)	.0174**	.0065	.0018	.0082	–.0078	.0075	.0044	.0073	.0329***	.0095	–.0120	.0092	.0228*	.0099

Continuation of table A1 on the next page.

Continuation of table A1.

Fixed effects OLS regression models, 2000–2008	DV: Voting		DV: Boycott intentions		DV: Strike intentions		DV: Demonstration intentions		DV: Life satisfaction		DV: Negative emotions		DV: Positive emotions	
	FE	SE	FE	SE	FE	SE	FE	SE	FE	SE	FE	SE	FE	SE
Period-effects (ref. 2000 [w2])														
2001 (w3)	−.0325*	.0139	−.0407*	.0202	−.0657***	.0192	−.0196	.0178	−.0499*	.0204	.0264	.0203	.0183	.0244
2002 (w4)	.0281	.0149	.0050	.0205	−.0037	.0194	.0221	.0175	−.1074***	.0218	.0402	.0210	−.0033	.0240
2003 (w5)	.0001	.0159	.0555**	.0201	.0255	.0188	.0458*	.0184	−.0887***	.0208	.0335	.0204	.0102	.0240
2004 (w6)	.0797***	.0156	.0121	.0206	−.0071	.0197	.0385*	.0190	−.1520***	.0219	.0995***	.0219	.0030	.0251
2005 (w7)	.1124***	.0162	−.0468*	.0204	−.0381*	.0192	.0087	.0183	−.1619***	.0225	.0848***	.0212	−.0172	.0257
2006 (w8)	.0407*	.0167	−.0963***	.0202	−.0987***	.0190	−.0447*	.0179	−.2041***	.0229	.1590***	.0225	−.1461***	.0258
2007 (w9)	.0323	.0170	−.1464***	.0198	−.1291***	.0195	−.0762***	.0180	−.1700***	.0228	.1525***	.0226	−.1433***	.0253
2008 (w10)	.0463**	.0172	−.1333***	.0204	−.0988***	.0193	−.0700***	.0177	−.2012***	.0226	.1349***	.0223	−.1614***	.0260
Constant	.0356*	.0153	.0999***	.0184	.0838***	.0168	.0570***	.0171	.1300***	.0206	−.0962***	.0188	.0338***	.0212
Model diagnostics														
Rho (fraction of individual-specific error to total)	.79		.66		.69		.72		.52		.56		.48	
N (person-years)	19 189		19 799		19 795		17 908		18 911		18 905		18 894	
n (individuals)	2577		2726		2728		2728		2573		2573		2573	
R2–within	0.014		0.016		0.015		0.011		0.056		0.015		0.020	

Note: FE = fixed-effects estimator (standardised). Standard errors (SE) are panel robust. Significance levels: *p < 0.05; **p < 0.01; ***p < 0.001.

Table A2 Fixed-effects models for SWB and voting, 2000–2017

	DV: Voting		DV: Life satisfaction		DV: Negative emotions		DV: Positive emotions	
	FE	SE	FE	SE	FE	SE	FE	SE
Political participation								
Voting in federal popular votes, per year (0–10 times)	–	–	–.0006	.0128	–.0143	.0128	.0013	.0133
Subjective well-being								
Life satisfaction (0 low–10 high)	–.0018	.0066	–	–	–	–	–	–
Negative emotions (0 never–10 always)	–.0085	.0068	–	–	–	–	–	–
Positive emotions (0 never–10 always)	–.0012	.0055	–	–	–	–	–	–
Covariates								
Education, highest level attained								
(Swiss classification) (ref: post-obligatory degree)								
Low (compulsory education only)	.0938	.0876	–.1232	.0818	.2487**	.0952	–.2107***	.0702
High (tertiary level)	–.0176	.0377	–.0483	.0417	–.0264	.0454	.0236	.0413
Satisfaction with financial situation (0 low–10 high)	–.0046	.0064	.2189***	.0106	–.0787***	.0088	.0855***	.0092
Left-right self-positioning (0 left–10 right)	.0099	.0090	.0142	.0110	.0085	.0107	–.0192	.0122
Feeling of personal political influence (0 low–10 high)	.0423***	.0064	.0101	.0083	.0104	.0080	.0053	.0096
Trust in Federal Government (0 low–10 high)	.0239***	.0075	.0043	.0105	–.0033	.0095	.0246*	.0111
Satisfaction with democracy overall (0 low–10 high)	.0211**	.0067	.0205*	.0092	.0072	.0090	.0350***	.0096
Period-effects (ref. 2000 [w2])								
2001 (w3)	–.0624***	.0169	–.0411	.0242	–.0166	.0231	.0449	.0282
2002 (w4)	.0111	.0177	–.0934***	.0253	.0230	.0236	.0188	.0280
2003 (w5)	–.0330	.0179	–.0828***	.0244	.0163	.0229	.0356	.0280
2004 (w6)	.0687***	.0177	–.1404***	.0256	.0822***	.0248	.0160	.0289
2005 (w7)	.1007***	.0191	.1488***	.0255	.0697***	.0241	.0072	.0297
2006 (w8)	.0246	.0198	–.1765***	.0266	.1242***	.0250	–.1257***	.0288
2007 (w9)	.0168	.0195	–.1433***	.0262	.1300***	.0248	–.1177***	.0287
2008 (w10)	.0312	.0198	–.1782***	.0254	.1125***	.0246	–.1257***	.0293
2009 (w11)	.0331	.0209	–.1970 ***	.0260	.1808***	.0249	–.1491***	.0290
2011 (w13)	–.0046	.0207	–.2085***	.0263	.1452***	.0250	–.2375***	.0306
2014 (w16)	.0969***	.0212	–.1911***	.0275	.2081***	.0276	–.2400***	.0312
2017 (w19)	.1247***	.0213	–.2034***	.0278	.1999***	.0272	–.2502***	.0306
Constant	.0377*	.0176	.1755***	.0234	–.1268***	.0221	.0936***	.0242
Model diagnostics								
Rho (fraction of individual-specific error to total)	.77		.48		.55		.45	
N (person-years)	20187		20207		20200		20189	
n (individuals)	1843		1843		1843		1843	
R2–within	0.021		0.057		0.019		0.028	

Note: FE= fixed-effects estimator (standardised). Standard errors (SE) are panel robust. Significance levels: $*p < 0.05$; $**p < 0.01$; $***p < 0.001$.

The Curious Case of the Grumpy Union Member

Sinisa Hadziabdic*

Abstract: Relying on the data of the Swiss Household Panel, the paper aims to make sense of the puzzling dissatisfaction union members exhibit in most dimensions of their job. A longitudinal approach reveals that the dissatisfaction is to a large extent explained by contextual and individual time-invariant unobserved heterogeneity. A decline in job satisfaction is for many workers the main reason to join a union. Job satisfaction climbs back as the years of membership increase, which confirms that unions do indeed have positive effects on the professional well-being of their members.

Keywords: Labor unions, job satisfaction, panel data, dynamic effects.

Le curieux cas du membre syndical grincheux

Résumé : En utilisant les données du Panel suisse de ménages, le papier vise à rendre compte de l'étonnante insatisfaction des membres syndicaux dans la plupart des aspects de leur travail. Une approche longitudinale révèle que l'insatisfaction s'explique dans une large mesure par l'hétérogénéité non-observée entre membres et non-membres au niveau contextuel et individuel. Une baisse de la satisfaction au travail est pour de nombreux travailleurs la principale raison d'adhérer à un syndicat. La satisfaction au travail remonte à mesure que le nombre d'années d'adhésion augmente, ce qui confirme que les syndicats ont effectivement des effets positifs sur le bien-être professionnel de leurs membres.

Mots-clés : Syndicats, satisfaction au travail, données de panel, effets dynamiques.

Der kuriose Fall des mürrischen Gewerkschaftsmitglieds

Zusammenfassung: Anhand der Daten des Schweizer Haushalt-Panels beabsichtigt das Paper die rätselhafte Unzufriedenheit von Gewerkschaftsmitglieder in den meisten Dimensionen ihrer Arbeit zu erklären. Ein longitudinaler Ansatz zeigt, dass die Unzufriedenheit weitgehend durch kontextuelle und individuelle zeitinvariante, unbeobachtete Heterogenität erklärt wird. Ein Rückgang der Arbeitszufriedenheit ist für viele Arbeiter der Hauptgrund für den Beitritt zu einer Gewerkschaft. Die Arbeitszufriedenheit steigt während der Mitgliedschaftserfahrung zurück, was bestätigt, dass Gewerkschaften tatsächlich positive Wirkungen auf das berufliche Wohlergehen ihrer Mitglieder haben.

Schlüsselwörter: Gewerkschaften, Arbeitszufriedenheit, Paneldaten, Dynamische Effekte.

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1   A telling moody pattern: Introduction

Explaining individual thinking and behavioral patterns is a challenging task. Every individual is subject to different sets of forces that influence the way she interacts with and interprets the surrounding world. While personal attitudes and beliefs are important elements to take into account, structural constraints and contextual conditions are often relevant determinants in explaining the variability between individuals. Apparently paradoxical situations in which there is a mismatch between the attitudes of an individual and her behavior offer the opportunity to examine the potential contradictory influences of individual penchants and external constraints.

   This type of paradox is provided by the link between union membership and job satisfaction. Despite their increased involvement in the public and political sphere (e. g. Baccaro et al. 2003; Streeck and Hassel 2003) unions' main scope of activity is and remains the protection and the improvement of their members' professional well-being. Therefore, it is puzzling to discover that union members are less satisfied than non-members with most dimensions of their job. The paper aims to make sense of this apparent puzzle for the Swiss case. The focus on Switzerland is motivated by: 1) the availability of rare high-quality longitudinal data to explore the issue in a new light; 2) the opportunity to examine in a coordinated market economy a question examined so far only in liberal market economies. While solving the paradox, we indirectly evaluate whether members still see unions as a relevant actor to refer to when experiencing professional issues. In addition, job satisfaction is a dimension at the core of the functioning of the labor market, linked to labor productivity and turnover (Mangione and Quinn 1975; Akerlof et al. 1988; McEvoy and Cascio 1985).

   Since the act of joining a union is in general the result of a voluntary choice, one of the main theories that tries to make sense of the link between union membership and job satisfaction is based on a process of self-selection. Union members may be more dissatisfied with their job even before becoming affiliated and the experience of union membership may not have a negative effect in itself. Job satisfaction, like every attitude, is influenced by a large number of factors, many of which may be unobservable. Existing cross-sectional approaches may be hence inadequate to esti- mate the causal link between union membership and job satisfaction. Working with panel data and modeling changes in the dependent variable through changes in the independent one(s), it is possible to control for all time-invariant potentially omitted factors and to show that the differentials between members and non-members in terms of job satisfaction are to a large extent the consequence of unobserved, rather than observed, heterogeneity between members and non-members.

   Since job satisfaction is an attitudinal outcome variable, it can be influenced by both objective changes in an individual's work situation (exerting in most cases an immediate effect) and changes in the way the same work context is subjectively interpreted (based in most cases on gradual attitudinal variations). The second type

of mechanism justifies the exploration of a dynamic dimension that illustrates how job satisfaction may vary throughout the membership trajectory. In particular, prospective members may undergo a gradual learning process before being able to see unions as an actor that can have an impact on their job satisfaction. After joining, unions may also require substantial time to influence the job satisfaction level of their members by acting on objective working conditions but also by changing the way members perceive them. The results are used to reinterpret the literature on the link between union membership and job satisfaction. Unions in Switzerland appear to be doing what they are supposed to by increasing the job satisfaction level of their members. However, the process through which that happens is less straightforward than previously thought and operates through multiple channels. More generally, any time attitudinal variables are used as outcomes, the issues described above are likely to arise. Unobserved heterogeneity and the presence of a dynamic dimension are aspects always relevant to consider. A longitudinal approach that requires the availability of individual-level panel data turns out to be indispensable to uncover such effects.

The remainder of the paper is structured as follows. In the second section, we summarize the main approaches developed in the existing literature to make sense of the link between union membership and job satisfaction. We then describe the data we employ to examine this relationship in Switzerland and the empirical strategies we adopt. In the fourth section, we illustrate the empirical findings before discussing them and drawing some general conclusions.

2   Self-selection and/or a process of internal politicization: Theoretical framework

The link between job satisfaction and union membership has received lots of attention in the existing literature. Job satisfaction is a concept that operationalizes the perception an individual has of her job in general or of specific dimensions of it (Lu et al. 2005). As such, it can be considered a unitary concept that measures the overall appreciation of one's job or a multidimensional construct that implies separate facets. Below we consider both a measure of the overall level of job satisfaction and three specific dimensions (income, work atmosphere, and risk of unemployment). Income is one of the key factors determining the overall level of job satisfaction (Herzberg 1966), the appreciation of the work atmosphere is linked to the relational needs of every individual (Maslow 1970), while the self-evaluated risk of unemployment refers to the security needs of every worker that are a prerequisite to be able to enjoy what happens at the workplace on a daily basis (Maslow 1970).

At a descriptive level, union members are found to be less satisfied than non-members with most dimensions of their job. The disadvantage is particularly

pronounced in all aspects related to internal professional dynamics (tasks and relationships with colleagues and supervisors) and has been confirmed in Europe for the UK (Bender and Sloane 1998; Bryson et al. 2004; Heywood et al. 2002; Powdthavee 2011), in North America for Canada (Renaud 2002) and the United States (Artz 2010; Berger et al. 1983; Borjas 1979; Freeman 1978; Freeman 1980; Freeman and Medoff 1984; Hersch and Stone 1990; Pfeffer and Davis-Blake 1990; Gordon and Denisi 1995; Rees 1991), and in Australia (Miller 1990). More varied empirical findings are found when looking at external outcomes (income and job security), union members showing an advantage in these dimensions in the UK and in Canada (Meng 1990; Powdthavee 2011), are similar to non-members in Australia (Miller 1990), while they are disadvantaged in both dimensions in the US (Freeman and Medoff 1984; Brochu and Morin 2012). Therefore, the general picture that emerges is a lower satisfaction of union members especially when looking at the internal logics of their jobs. All these studies are based on countries that can be grouped into liberal market economies (Hall and Soskice 2001). With a centralized industrial relations regime at the industry-level and a consensual political system (Lehmbruch 1993; Lijphart 1998), Switzerland is usually considered a coordinated market economy (Hall and Soskice 2001). It is hence interesting to see whether the pattern of union member dissatisfaction holds also in a different institutional context.

In the following paragraphs, we review three main groups of approaches that make sense of the puzzling job dissatisfaction of union members when compared to non-members.

Since unions are meant to positively affect the working conditions of their members, the first explanation of their lower job satisfaction when compared to non-members supposes that this dissatisfaction is to be traced back to differences pre-existing the joining act. Both structural and individual factors may lead wage-earners that join unions to be less satisfied with their job situation even before becoming affiliated when compared to workers not joining a union. In fact, typical blue-collar union jobs are objectively characterized by worse working conditions, a tighter self-realization leeway, stricter hierarchical relationships, and rarer promotion opportunities than the average job (Borjas 1979; Worrall and Butler 1983). At the individual level, some wage-earners may be more likely to join unions than other ones that share the same working conditions because they are more sensitive to certain issues at the workplace and are more dissatisfied with them to begin with. In other words, both structural and individual factors may be responsible for a lower level of job satisfaction to begin with that, in turn, represents the main reason for certain categories of wage-earners to self-select themselves into unions. This scenario can also be seen as a case of reversed causality, the outcome variable we consider (job satisfaction) affecting the main independent variable (the union membership status). Recent evolutions in the labor market imply a growing liberalization of industrial relations (Baccaro and Howell 2017) and an increase of the share of jobs in

the service sector to the detriment of the strongly unionized manufacturing sector (Avdagic and Baccaro 2016). These trends suggest that punctual membership events related to a sudden decrease in job satisfaction may have become more frequent than in the past. Union membership is no longer a customary practice for most workers and it tends to reflect an individual choice, a decrease in job satisfaction being the potential key driver.

Empirically, selection effects explaining the link between job satisfaction and union membership have been confirmed by including a large enough number of control variables that make the coefficient of union membership insignificant (Bender and Sloane 1998; Renaud 2002). Since some of the control variables used by cross-sectional literature are endogenous, a more convincing strategy is provided by the use of instrumental variables. Working with a very rich dataset on UK unions, Bryson et al. (2004) show that union membership has a negative relationship with job satisfaction even after including a rich set of observed controls. The relationship becomes insignificant only when instrumenting the union membership status. They conclude that the residual job dissatisfaction between members and non-members is related to unobservable personality traits. Adopting a different empirical strategy, Gordon and Denisi (1995) reach the same conclusion when comparing workers members and non-members exposed to the same working conditions. However, their results suffer from an issue of external validity since they cannot be generalized to contexts other than those they considered.

Aside from the studies cited in the previous paragraph, the bulk of the existing literature interprets the negative association between job satisfaction and union membership as a proper causal effect of involvement in union dynamics. In fact, in most articles, the negative effect of union membership remains significant even after including a large number of observed control variables. Hirschman's exit-voice theory is the main approach that allows linking these differences to union membership (Hirschman 1970; Freeman and Medoff 1984). The theory states that, when facing issues in an organization, individuals can either try to redress the situation by voicing their concerns or exit it. The voice option is more often used by union members, being more likely to detect work-related issues and to communicate them to unions. In the long run, besides becoming sensitive to objective professional problems, members may undergo a process of politicization (Borjas 1979). Members may become so attached to unions' priorities, socialized into a union culture that leads them to voice concerns to support the unions' cause even independently of objective work issues.

If a socialization/politicization process takes indeed place, this implies that job satisfaction is not only the reflection of objective working conditions but also embodies subjective considerations (Pencavel 2009). Working conditions are not only objectively evaluated by individuals but are also subjectively perceived depending on their own experiences and interpretations. Union members may express

satisfaction levels lower than their actual satisfaction in order to strategically sup-port unions' goals. Union membership can influence job satisfaction by acting on objective working conditions and by affecting how objective elements are perceived and expressed in survey questions. This is empirically supported by the fact that, among union members, a lower job satisfaction does not lead to a higher propensity to leave one's job (Borjas 1979; Freeman 1978; Kochan and Helfman 1981; Leigh 1986; Lincoln and Boothe 1993) and is unrelated to the desire to have a union at the workplace (Leigh 1986). A lower job satisfaction does not lead to negative be-havioral and attitudinal outcomes one would expect if it represented only genuine negative evaluations of union members' work situation.

    Other strands of literature provide alternative interpretations of the ambiguous link between job satisfaction and job turnover. Kochan and Helfman (1981) high-light that the costs of leaving union jobs are higher than for non-union jobs. The former are associated with a number of benefits (job security, wage premiums, social packages) not easy to find in non-union jobs. These "bread and butter" issues are more important than having a pleasant job content. The exit option is in most cases not even considered since work disengagement, low productivity, or absenteeism are much more affordable reactions to job dissatisfaction (Hammer and Avgar 2005). Allen (1984) confirms that union members exhibit a higher tendency to be absent from their job, which suggests that their lower job satisfaction may be genuine.

    It is hence possible to link low job satisfaction and low job turnover without having to suppose that the former is the result of distorted declarations. However, we still have to explain how a low job satisfaction does not negatively influence the desire for the presence of a union at the workplace (Leigh 1986). In fact, dishonest declarations may appear in real life but should be much less prevalent in anonymous survey questionnaires (Bender and Sloane 1998). The solution to this apparent con-tradiction can be found by pushing further the mechanism through which unions can affect the subjective aspects of job satisfaction. If we conceptualize job satisfac-tion as an encounter between objective working conditions and the expectations an individual has about them (Hulin et al. 1985), we can suppose that unions can influence the subjective side of job satisfaction not only through an impact on false declarations but also by affecting the frame of reference through which objective working conditions are interpreted. The same objective working conditions may be interpreted differently by different individuals. Personality traits, past experiences, and current involvement in union dynamics may affect such interpretative frames. Even if they provide improvements in objective working conditions, unions may lead to a general decrease of job satisfaction if, at the same time, they increase the satisfaction standards of their members. By interacting with union leaders and oth-er members, an individual may realize that what was good enough in certain job dimensions before joining unions is no longer good enough after having become affiliated. This hypothesis is compatible with a pattern that simultaneously implies a

lower job satisfaction among union members and their positive opinion on unions. Empirically, two studies attempted to confirm the effect of unions on the interpretative frames of their members. Berger et al. (1983) and Schwochau (1987) show that the importance given to different dimensions of job satisfaction mediates the link between union membership and the satisfaction in such dimensions. Even though useful to highlight how unions may affect the importance given to different job dimensions by their members, the operationalizations used in the two articles are obviously endogenous since it is impossible to measure separately the satisfaction in a given dimension and the importance given to it. Alternatively, it is also possible to become less satisfied if unions' actions do not meet the expectations of a wage-earner who joined hoping in an improvement of her job situation.

Finally, we highlight that, while a selection effect perspective does not allow explaining any dynamic effects of union membership on job satisfaction, the exit-voice perspective, the presence of a socialization/politicization process, and/or the change of the interpretative frame of reference are compatible with the presence of dynamic changes of union membership related to the duration of membership and to past union membership experiences. If we conceptualize union membership (Gomez and Gunderson 2004) or associational involvement in general (Hooghe 2003) as an experience good whose benefits are gradually acquired and that may not dissipate after leaving the membership status, it is possible to show that union membership can have positive job satisfaction effects especially on first-time members at the beginning of their membership experience (Artz 2010), probably through an impact on objective working conditions. However, the self-declared satisfaction with union achievements tends to decrease with the duration of membership (Artz 2010) since the benefits provided by unions become taken for granted or the satisfaction standards become gradually higher. After leaving, job satisfaction may recover only gradually. Powdthavee (2011) provides additional dynamic analyses showing that job satisfaction tends to drop right before joining a union, probably causing the decision to become affiliated. Satisfaction partially recovers during the membership phase despite never reaching pre-membership levels, which is consistent with the presence of an interplay between objective and subjective considerations that determine job satisfaction.

Summing up, disentangling the link between union membership and job satisfaction requires to consider selection and causal effects, objective and subjective determinants of the level of satisfaction, and potential longitudinal effects related to what happens during the overall membership trajectory (before, during, and after having left a union) and the residual signs of past membership experiences.

3   Empirical ingredients and strategies: Data and methods

In this section, we start by describing the data we employ to examine the link be-tween union membership and four dimensions of job satisfaction in Switzerland. We then illustrate the empirical strategies we adopt to understand to what extent, on average, unions influence their members' job satisfaction and how the effect(s) may vary dynamically throughout the membership trajectory.

3.1   Data: The Swiss Household Panel

The link between union membership and job satisfaction is examined in Switzerland using the data of the Swiss Household Panel (SHP). In Table 1, we describe the questions used to operationalize the union membership status and the four dimen-sions of job satisfaction (working conditions, income, work atmosphere, risk of unemployment) we take into account.

Table 1   Description of the union membership variable and of the dependent variables

Variable	Question(s)	Answer options	Waves
Union membership	I will now read out a list of associa-tions and organisations. Could you tell me for each of them whether you are an active member, a passive member or not a member? Trade union, em-ployees association	– Non-member (0) – Member (1) (either passive or active member)	1999–2009, 2011, 2014, 2017
Satisfaction with working conditions	On a scale from 0 "not at all satisfied" to 10 "completely satisfied" can you indicate your degree of satisfaction for each of the following points? Your working conditions	0–10	1999–2017
Satisfaction with income	The income you get from your job	0–10	1999–2017
Satisfaction with work atmosphere	The atmosphere between you and your work colleagues	0–10	1999–2017
Risk of unem-ployment: Next 12 months	How do you evaluate the risk of be-coming personally unemployed in the next 12 months, if 0 means "no risk at all" and 10 "a real risk"?	0–10	1999–2017

We consider a dichotomous union membership status (non-member or member) by merging passive and active members.[1] Regarding the four dimensions of job satisfac-tion, they were chosen both because of pragmatic reasons (they are available in all

1   This choice is warranted since we do not have enough statistical power to obtain reliable results on continuous passive or active members for the dynamic analyses presented below.

survey waves) and because they provide a varied set of job satisfaction dimensions. The satisfaction with working conditions can be seen as a variable operationalizing the satisfaction with one's job in general. Income satisfaction considers one of the key dimensions influencing the overall level of job satisfaction, explaining professional motivation, and potentially linked to wage premiums unions may be able to guarantee to their members. The perception of the work atmosphere focuses more precisely on the relational aspects of the work environment. The self-evaluated risk of unemployment is a key measure of job security on which unions should have an impact and that is particularly relevant when taking into account today's liberalization and flexibilization trends.

In addition to these key variables, we consider a series of standard control variables: sex, age class, education level, citizenship, region of residence, marital status, and time dummies. Differently from certain articles in the existing literature (e. g. Bender and Sloane 1998; Renaud 2002), these controls are clearly exogenous and do not intervene as mediators of the relationship of interest, two very important characteristics since we aim to tease out causal effects (Wooldridge 2010, 53–57). All analyses are based on the subset of wage-earners,[2] i. e. the category of individuals most likely to join a union. Considering the years in which the union membership variable is available, our analyses are representative of the Swiss population between 1999 and 2009, 2011, 2014, and 2017 and are based on 17 636 distinct individuals and 56 325 observations. Descriptive statistics on independent, dependent, and control variables are available in Table A1 of the Appendix.

3.2 Average and dynamic effects: Empirical strategies

We start by examining the link between union membership and the four outcome variables by estimating average treatment effects, i. e. by looking at the extent to which joining a union is capable of modifying, on average, the level of job satisfaction. In order to do that, we consider the following functional form:

$$Y_{it} = \alpha + \beta\, M_{it} + C_{it}^{'}\delta + \nu_i + \mu_{it}, \qquad for\ i = 1, 2, \ldots, N\ and\ t = 1, 2, \ldots, T$$

where the sub-scripts i and t represent individuals and time points, respectively; Y_{it} is a job satisfaction dimension; α an intercept term constant across individuals and time periods; β is the coefficient of the union membership status; M_{it} a dummy variable coded as 0 if the individual is not a member in a given year and 1 if she is a member; C_{it} is the vector of the observed control variables described above; δ the coefficients of the control variables; ν_i corresponds to all variables that affect the dependent variable and vary across individuals but not over time; μ_{it} represents

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2   The definition of wage-earner is the one of the International Labour Organization.

all variables not included in the model that affect the dependent variable and vary across individuals and over time.

We estimate three types of models. In the first one, we do not include any control variable (setting C as the null vector), and estimate the β coefficient of interest through ordinary least squares (OLS). This gives the observed differential in job satisfaction between non-members and members. If the decision to join a union was unrelated to a wage-earner's job satisfaction, this observed difference would already represent the desired causal effect of union membership. Since this assumption is unlikely to hold, the bulk of the existing cross-sectional literature tries to tackle the likely correlation between union membership and the error term(s) by including a set of observed controls supposed to capture omitted variables that influence both the act of joining and job satisfaction. This is what we do in a second pooled OLS model where we include the control variables described in the previous section. Finally, we exploit the longitudinal structure of the data in order to also partial out the endogeneity coming from time-invariant omitted variables included in the idiosyncratic error term v_i. We do that by estimating the specification in equation (1) through a fixed effects model.

Since most aspects of an individual's life do not change at all or do not change very often over time, a fixed effects model controls for a huge set of potential omitted variables. Nevertheless, the model is still exposed to issues of time-varying endogeneity: time-varying omitted variables and time-varying reversed causality. Time-varying reversed causality is particularly relevant with the research question at hand since a change (in particular a decrease) in job satisfaction may be one of the primary reasons that motivate a wage-earner to join a union. Instead of dealing with strategies based on untestable assumptions such as instrumental variable estimators, we draw inspiration from Powdthavee's (2011) article and examine the issue by generalizing our specification on the previous page. We consider the link between union membership and job satisfaction in a dynamic fashion by taking into account attitudinal changes throughout the membership trajectory. In order to do that, we partition the membership status in a series of dummies, each one representing a specific moment in the membership trajectory. We consider ten dummies that identify yearly membership durations: a dummy coded 1 if the individual will become a member in the following 5 years or more and 0 otherwise (we do not go beyond 5 years because few individuals have long enough spells), a dummy coded 1 if the individual will become a member in the following 4 years and 0 otherwise, …, a dummy coded 1 if the individual will become a member in the following year and 0 otherwise, a dummy coded 1 if the individual has been a member for up to one year at the time of observation and 0 otherwise, a dummy coded 1 if the individual has been a member for between one and two years at the time of observation and 0 otherwise, …, and a dummy coded 1 if the individual has been member for at

least 5 years or more at the time of observation and 0 otherwise. In equation form, this corresponds to:

$$Y_{it} = \beta_{-5} \, M_{it_{-5}} + \beta_{-4} \, M_{it_{-4}} + \beta_{-3} \, M_{it_{-3}} + \beta_{-2} \, M_{it_{-2}} + \beta_{-1} \, M_{it_{-1}} + \beta_1 \, M_{it_1} + \beta_2 \, M_{it_2}$$
$$+ \beta_3 \, M_{it_3} + \beta_4 \, M_{it_4} + \beta_5 \, M_{it_5} + C_{it}^{'}\gamma + v_i + \mu_{it},$$
$$\text{for } i = 1, 2, \ldots, N \ \text{and} \ t = 1, 2, \ldots, T$$

We estimate the model using again fixed effects. In estimating these models, we choose as reference point the most distant time dummy (5 years or more before) from the transition we consider (joining a union). This reference point makes sense since it is the furthest from the two transitions, thus representing a good approximation to the control state not being yet influenced by future union involvement. The biggest issue of this analysis is the presence of large multicollinearity, consecutive dummy variables representing different moments in the membership trajectory that are highly correlated with each other. This produces an increase in the variance of the estimator by decreasing the statistical power at our disposal. There are ways to deal with the issue by imposing some restrictions on the dummy variables (e. g. Almon 1965), but they rely on assumptions we prefer to avoid making.

Besides providing a dynamic analysis instead of average effects, a dynamic model can lead to different conclusions in comparison to average treatment effects. In fact, the average treatment effects are mainly influenced by observations right before and right after the joining transition. Either because they leave after just one year of membership or because we do not observe them for long enough, many participants show only the observations right before and right after the transition we examine (cf. Table A6 in the Appendix). By being more numerous than those associated with longer durations, these observations are those influencing the most average treatment effects. By considering separately different moments of the trajectory, a dynamic analysis can show the appearance of trends that may become visible only after a certain duration of membership not experienced by most participants.

In both types of analyses (average and dynamic effects), we consider only the first spell of membership a wage-earner exhibits during her participations in the SHP. If union membership has durable effects (Gomez and Gunderson 2004; Hooghe 2003; Artz 2010), individuals that already have a past as members may still bear the effects of previous memberships. Focusing only on the first spell of membership also implies that we do not consider the act of leaving a union the opposite of becoming affiliated. To correct for heteroscedasticity and serial correlation at the individual level, in all models, we use cluster-robust standard errors, with the individual as the cluster unit. When the number of clusters is large enough (as it is our case), this type of standard errors has been shown to be the most robust and flexible option leading to unbiased test statistics (Petersen 2009).

Figure 1   Average treatment effects of union membership on four dimensions
                  of job satisfaction
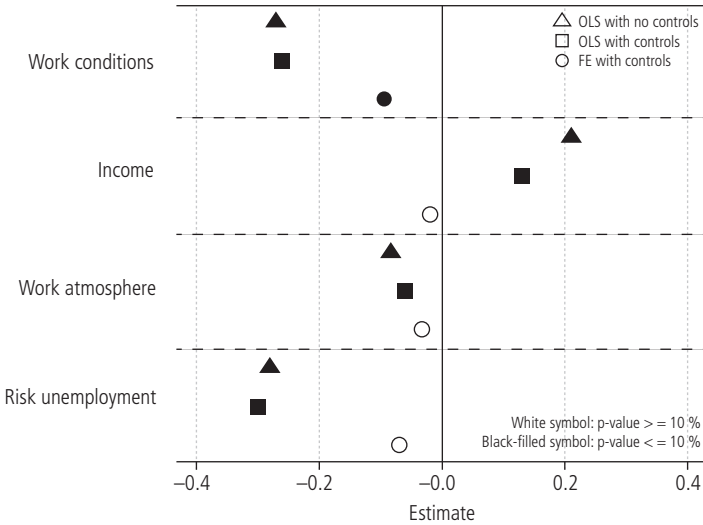
Abbreviations: "Work conditions" stands for "Satisfaction with working conditions"; "Income" stands for "Satisfaction with income"; "Work atmosphere" stands for "Satisfaction with work atmosphere"; "Risk unemployment" stands for "Self-evaluated risk of unemployment".

4   Average treatment effects and relevant trends: Results

Since we are only interested in the estimate associated with union membership, we plotted the average treatment effects' estimates in Figure 1. The figure presents standardized bounds [–0.4, 0.4]. These make the magnitude of the estimates between distinct dependent variables visually comparable since they are all measured on a 0–10 scale. Full models with the estimates of all control variables are available in Tables A2, A3, A4, and A5 in the Appendix.

Looking at the average observed difference between members and non-members in the "OLS without controls" model, we remark a pattern already highlighted in the existing literature. Union members are clearly disadvantaged when it comes to the satisfaction with working conditions (–0.27, p < 0.001) and slightly less satisfied with their work atmosphere (–0.083, p < 0.001) when compared to non-members. To the contrary, they show a higher satisfaction with income (0.21, p < 0.001) and a lower feeling of being at risk of losing their job (–0.28, p < 0.001).

The differences between members and non-members decrease after including a set of observed controls in the "OLS with controls" models but remain still signifi-

Figure 2   Dynamic fixed effects of union membership on four dimensions
                  of job satisfaction
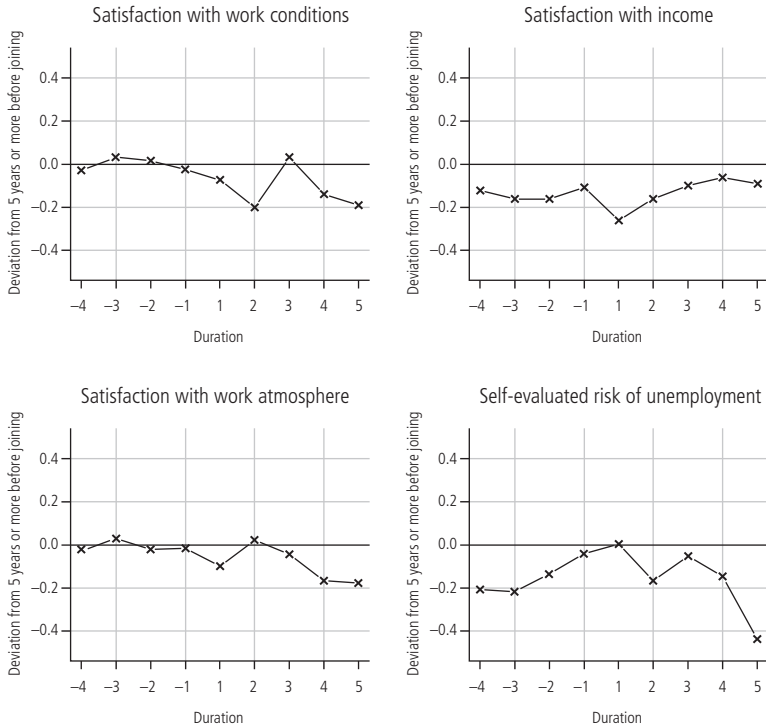
cant. Unions members are still less satisfied with their working conditions (–0.26, p < 0.001) and work atmosphere (–0.060, p < 0.05) and advantaged in terms of income (0.13, p < 0.001) and self-evaluated unemployment (–0.30, p < 0.001) perception.

The estimates and their significance decrease much more when controlling for all time-invariant omitted variables in the "Fixed effects with controls" models. Only the coefficient of union membership associated with the satisfaction with working conditions (–0.094, p < 0.05) remains barely significant, while the differences in the other three dimensions of job satisfaction turn out to be related to selection effects.

Moving to the dynamic fixed effects analysis, once again, we provide a plot of the estimates of interest associated with union membership in Figure 2. Full regression estimates with control variables are available in Table A7 in the Appendix. In addition to these estimates, we provide specific significance tests when we remark clear trends that do not have 5 years or more before joining as reference point.

Looking at the dynamic effects of union membership on the satisfaction with working conditions, we see that the level of satisfaction decreases from 3 years before joining on with a decline that becomes more pronounced in the first two years of membership, even though the trend is significant only at the 10% level because of the high multicollinearity that affects the different dummies (trend $-3 \rightarrow 2$ [-0.23, $p < 0.10$]). The level of satisfaction recovers in the third year of membership (trend $2 \rightarrow 3$ [0.23, $p < 0.10$]). We then observe a decrease in the last two years, which is however not even close to be significant and may be a statistical incident related to the low number of individuals observed as members for long enough (cf. Table A6 in the Appendix).

Looking at the satisfaction with income, we remark a clear drop only in the years representing the transition to union membership (trend $-1 \rightarrow 1$ [-0.16, $p < 0.5$]). The level of income satisfaction then fully recovers until the fourth year of membership (trend $1 \rightarrow 4$ [0.20, $p < 0.10$]).

Focusing on the way the work atmosphere is perceived, no significant trend (not even at the 10% level) is observable.

Turning our attention to the self-evaluated risk of unemployment, we remark a linear increase in the pre-membership phase that starts three years before joining and peaks during the first year of membership (trend $-3 \rightarrow 1$ [0.22, $p < 0.10$]). Job insecurity clearly decreases during the membership phase (trend $1 \rightarrow 5$ [-0.44, $p < 0.05$]).

5   Unobservable and longitudinal attitudinal processes: Discussion

The results of the previous section allow us to shed new light on the link between union membership and job satisfaction. At a descriptive level, we have confirmed that union members are less satisfied with the internal dimensions of their job (working conditions and work atmosphere) and have a more positive perception of external outcomes (income and job security) when compared to non-members even in a coordinated market economy like Switzerland. The dissatisfaction in terms of working conditions is however much stronger than the one associated with the work atmosphere, which implies that it is objective work arrangements rather than relational aspects between colleagues that distinguish union from non-union jobs. In addition, the advantage of union members in terms of self-evaluated risk of unemployment and income satisfaction seems lower than one may expect considering the much stronger job protection and income differentials they enjoy. For instance, in our Swiss sample, union members declare an average gross yearly income of 81 823 Swiss Francs,[3] compared to 63 864 Swiss Francs for non-members.

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3   The amount refers to individual employment income. Although exchange rates vary across time and we use panel data, the exchange rate between the Swiss Franc and the US dollar has fluctu-

Trying to understand whether these differences are the consequence of a selection effect related to different professional circumstances and/or individual personality traits between non-members and members or causal effects of union membership, we started by including a set of observed controls supposed to capture relevant omitted variables. The results we obtained are very similar to those known in the existing literature, with a small decrease in the magnitude of the estimates, which however remain still highly significant. The decrease in terms of magnitude and significance becomes much more important when exploiting the advantages of panel data. Only the disadvantage in terms of satisfaction with working conditions of union members remains significant at the 5% level. The observed differences in terms of job satisfaction dimensions between members and non-members are hence to a large extent, if not exclusively, the consequence of a selection effect. Only a small part of self-selection is related to observed control variables. The largest part of the differential is explained by time-invariant unobserved heterogeneity between members and non-members. When the outcome variable is an attitudinal dimension such as job satisfaction, causality should be inferred very carefully with cross-sectional models. Attitudinal dimensions are in general determined by a myriad of factors, many of which are potentially unobservable or difficult to measure. Repeated observations over the same individuals provide much higher leverage to distinguish between selection and causal effects.

Going beyond average effects, we were able to remark that union membership and three dimensions of job satisfaction entertain a dynamic relationship. The only exception is the perception of the work atmosphere, not showing any significant trends and being also the outcome with the lowest association with union membership at a descriptive level. This implies that unions do have an impact on job satisfaction dimensions, but not all aspects of an individual's job are affected. Since we do not observe dynamic variations neither in the pre- nor in the post-membership phase, changes in relational dynamics do not seem to be a relevant reason to join a union and they are not affected by the membership experience. There are professional domains that are part of the scope of union activities (working conditions, income, job security), while other ones such as the relationships with colleagues are not seen among union priorities by prospective joiners and do not change importantly as a consequence of the union membership experience.

Regarding the other three dimensions of job satisfaction, all three show a negative trend peaking in the first year of membership. The satisfaction with working conditions and income exhibit a clear decrease between the year before joining and the first year of membership. This signals the likely presence of time-varying reversed causality. A deterioration in terms of working conditions and/or income

ated around 1:1 during the 1999–2017 period examined in these analyses (U.S. Dollar to Swiss Franc Spot Exchange Rates for 1975 to 2019 from the Bank of England. Accessed December 17, 2019. https://www.poundsterlinglive.com/bank-of-england-spot/historical-spot-exchange-rates/usd/USD-to-CHF).

represents the main reason to join a union, probably expecting a positive impact of unions in these dimensions. Despite their weakened role as regulatory agents of the labor market, these findings are consistent with the idea that wage-earners still see unions as a relevant agent capable of having positive effects in certain professional dimensions, especially when sudden issues are experienced. The same is true for the self-evaluated risk of unemployment, but the feeling of job insecurity starts already three years before joining and increases linearly until the first year of membership. Therefore, a decreasing job security may lead to the choice to join a union, but that happens more gradually when compared to the satisfaction with working conditions or income. This gradual attitudinal process is unlikely to be related to strong and sudden variations at the workplace but may be linked to general trends in the labor market such as liberalization and flexibilization that slowly become more relevant for a wage-earner and that culminate in the act of joining a union, seeking protection.

Does job satisfaction recover after joining? The attitudinal evolution after joining a union implies that unions are still able to provide significant benefits in all three dimensions of job satisfaction. Satisfaction with working conditions and income recover at levels similar to the situation before experiencing issues at the workplace, while the feeling of the risk of unemployment decreases at levels even lower than the moment at which a feeling of insecurity started. We were not able to detect such positive trends in average treatment effects because these trends become noticeable only after a certain duration of membership. Panel data are necessary in order to be able to distinguish between different membership durations (unless one has the rare information about the duration of membership with cross-sectional data) and to detect long-term trends. A look at Table A6 in the Appendix shows that most membership episodes we detect do not go beyond the first year of membership either because individuals leave unions or because we stop observing them in the survey. These individuals are those influencing the most the negative average treatment effects since the drop in job satisfaction is most obvious right after becoming a member. The positive effects of union membership appear only from the second year of membership on and potentially increase even more afterwards. It is also possible that short-term members may be those with the most precarious working situations, not allowing them to remain members for long enough to experience the positive effects that long-term members exhibit.

6   A matter of perspective rather than a paradox: Conclusions

Starting this paper with the paradoxical lower job satisfaction of union members when compared to non-members, we were able to show that the enigma does no longer appear as such when switching from a cross-sectional to a longitudinal perspective. Working with panel data turns out to be crucial to be able to partial

out selection effects related to unobserved heterogeneity. When all time-invariant unobserved omitted factors are controlled for, the differentials in terms of job satisfaction between union members and non-members become very small or irrelevant. When the dependent variable is an attitudinal dimension, being hence potentially influenced by many unobservable factors, causality should be inferred with much caution when working with cross-sectional data. Panel data are indispensable to deal with endogeneity issues.

In addition to allowing partialling out the effect of unobserved heterogeneity, panel data make it possible to observe relationships in a new light. Adding a longitudinal dimension shows that job satisfaction varies dynamically. Decreases in job satisfaction appear in general right before becoming affiliated, revealing that a deterioration in job satisfaction is probably the main reason behind the choice to join a union. Therefore, unions are still seen as an actor capable of providing important benefits in certain job-related dimensions (working conditions, income, job security) but not in other ones outside of the scope of their responsibilities (the relationships with colleagues). Looking at the improvement in terms of satisfaction and job security that becomes visible after a certain number of years of membership, unions appear to be still able to exert a consequential influence on the well-being of their members.

The results sketched out above concern only the Swiss case and the link between union membership and job satisfaction. The fact that our results are similar to those found in liberal market economies implies that general trends such as the liberalization and the tertiarization of the labor market affect union members in different institutional contexts the same way. In addition, the general implications of our empirical findings (the importance of unobserved heterogeneity and of a dynamic dimension) are potentially relevant in various types of relationships examined so far only through cross-sectional data.

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Appendix

Table A1   Descriptive statistics on all variables

	Min	Max	Mean	Standard deviation	Observations
Union membership	0	1	.203249	.4024	56325
Working conditions satisfaction	0	10	7.789208	1.6740	56207
Income satisfaction	0	10	7.258107	1.9649	56124
Work atmosphere	0	10	8.423477	1.4770	54572
Risk of unemployment	0	10	1.93863	2.4492	55467
Gender male	0	1	.4782423	.4995	56325
Age 25 years or less	0	1	.1609616	.3674	56324
Age 26–65 years	0	1	.8236986	.3810	56324
Age 66 years or more	0	1	.0153398	.1229	56324
Education primary	0	1	.165273	.3714	56325
Education secondary	0	1	.659352	.4739	56325
Education tertiary	0	1	.1753751	.3802	56325
Nationality foreigner	0	1	.1121666	.3155	56318
Region Lake Geneva	0	1	.1727297	.3780	56325
Region Middleland	0	1	.2572392	.4371	56325
Region Northwest	0	1	.1462938	.3534	56325
Region Zurich	0	1	.1717532	.3771	56325
Region East	0	1	.1234443	.3289	56325
Region Central	0	1	.096174	.2948	56325
Region Ticino	0	1	.0323657	.1769	56325
Canton Latin	0	1	.2993342	.4579	56325
Marital status couple	0	1	.5431448	.4981	56322
1999	0	1	.073715	.2613	56325
2000	0	1	.0624945	.2420	56325
2001	0	1	.0571682	.2321	56325
2002	0	1	.0523391	.2227	56325
2003	0	1	.0504749	.2189	56325
2004	0	1	.0809232	.2727	56325
2005	0	1	.0655126	.2474	56325
2006	0	1	.060435	.2382	56325
2007	0	1	.0699689	.2550	56325
2008	0	1	.0702352	.2555	56325
2009	0	1	.0715135	.2576	56325
2011	0	1	.075668	.2644	56325
2014	0	1	.1187572	.3235	56325
2017	0	1	.0907945	.2873	56325

Source: Swiss Household Panel (SHP)

Table A2   Average treatment effect of union membership on the satisfaction with working conditions

	OLS without controls	OLS with controls	FE with controls
Union member	−0.27***	−0.26***	−0.094*
Gender male		−0.12***	0
Age (ref. 0–25 years)			
Age 26–65 years		−0.15***	−0.071
Age 66 years or more		0.91***	0.47***
Education (ref. primary)			
Education secondary		−0.17***	−0.35***
Education tertiary		−0.12**	−0.27**
Nationality foreigner		−0.34***	0.11
Region (ref. Lake Geneva)			
Region Middleland		0.20***	0.097
Region Northwest		0.27***	0.19
Region Zurich		0.21***	−0.12
Region East		0.34***	0.056
Region Central		0.38***	0.11
Region Ticino		0.14+	−0.43
Marital status couple		0.22***	0.12**
Year (ref. 1999)			
2000		0.056	0.054
2001		0.096*	0.076*
2002		0.046	0.036
2003		0.12**	0.088*
2004		0.048	−0.024
2005		0.026	−0.035
2006		−0.067	−0.14**
2007		−0.088*	−0.14**
2008		−0.081*	−0.14**
2009		−0.086*	−0.17***
2011		−0.063+	−0.15***
2014		−0.000	−0.15**
2017		−0.12**	−0.21***
Individuals	14933	14929	14929
Observations	49988	49977	49977

Note: significance levels: $+ p < 0.10$. *$p < 0.05$. **$p < 0.01$. ***$p < 0.001$. Source: Swiss Household Panel (SHP)

Table A3   Average treatment effect of union membership on the satisfaction
                  with income

	OLS without controls	OLS with controls	FE with controls
Union member	0.21***	0.13***	−0.019
Gender male		0.033	0
Age (ref. 0–25 years)			
Age 26–65 years		0.21***	0.11
Age 66 years or more		1.13***	0.64***
Education (ref. primary)			
Education secondary		−0.059	−0.65***
Education tertiary		0.17**	−0.49***
Nationality foreigner		−0.45***	0.078
Region (ref. Lake Geneva)			
Region Middleland		0.23***	−0.13
Region Northwest		0.32***	0.025
Region Zurich		0.25***	−0.068
Region East		0.35***	0.15
Region Central		0.40***	0.19
Region Ticino		0.18+	0.017
Marital status couple		0.29***	0.095*
Year (ref. 1999)			
2000		−0.13**	−0.12**
2001		−0.033	−0.017
2002		−0.030	−0.016
2003		0.015	0.017
2004		−0.064	−0.036
2005		−0.11*	−0.066
2006		−0.19***	−0.12*
2007		−0.14**	−0.045
2008		−0.10*	−0.011
2009		−0.082+	−0.007
2011		−0.076+	0.039
2014		−0.049	0.091+
2017		−0.17***	0.046
Individuals	14892	14888	14888
Observations	49911	49900	49900

Note: significance levels: $+\,p<0.10$. $*\,p<0.05$. $**\,p<0.01$. $***\,p<0.001$. Source: Swiss Household Panel (SHP)

Table A4   Average treatment effect of union membership on the satisfaction
                  with the work atmosphere

	OLS without controls	OLS with controls	FE with controls
Union member	−0.083***	−0.060*	−0.032
Gender male		−0.10***	0
Age (ref. 0–25 years)			
Age 26–65 years		−0.16***	−0.11*
Age 66 years or more		0.60***	0.28**
Education (ref. primary)			
Education secondary		−0.072*	−0.063
Education tertiary		−0.18***	−0.029
Nationality foreigner		−0.28***	0.032
Region (ref. Lake Geneva)			
Region Middleland		0.25***	0.051
Region Northwest		0.38***	0.19
Region Zurich		0.29***	−0.034
Region East		0.41***	0.29
Region Central		0.39***	0.30
Region Ticino		0.082	−0.087
Marital status couple		0.11***	−0.016
Year (ref. 1999)			
2000		−0.008	0.010
2001		−0.023	−0.0018
2002		−0.068+	−0.061+
2003		−0.11**	−0.10**
2004		−0.066*	−0.100**
2005		−0.12***	−0.15***
2006		−0.24***	−0.28***
2007		−0.22***	−0.21***
2008		−0.23***	−0.24***
2009		−0.27***	−0.31***
2011		−0.24***	−0.28***
2014		−0.16***	−0.29***
2017		−0.30***	−0.38***
Individuals	14602	14598	14598
Observations	48467	48456	48456

Note: significance levels: $+ p < 0.10$. $*p < 0.05$. $**p < 0.01$. $***p < 0.001$. Source: Swiss Household Panel (SHP)

Table A5   Average treatment effect of union membership on the self-
                evaluated risk of unemployment

	OLS without controls	OLS with controls	FE with controls
Union member	−0.28***	−0.30***	−0.069
Gender male		0.059+	0
Age (ref. 0–25 years)			
Age 26–65 years		0.29***	−0.095
Age 66 years or more		−0.52***	−0.42*
Education (ref. primary)			
Education secondary		0.28***	0.78***
Education tertiary		0.025	0.66***
Nationality foreigner		0.48***	−0.40
Region (ref. Lake Geneva)			
Region Middleland		−0.22***	−0.13
Region Northwest		−0.26***	−0.65*
Region Zurich		−0.13*	−0.23
Region East		−0.45***	−0.53+
Region Central		−0.40***	−0.46+
Region Ticino		−0.25*	−0.18
Marital status couple		−0.21***	−0.057
Year (ref. 1999)			
2000		−0.38***	−0.30***
2001		−0.19***	−0.12*
2002		0.0066	0.073
2003		0.18**	0.23***
2004		0.29***	0.45***
2005		0.40***	0.51***
2006		0.31***	0.43***
2007		0.17**	0.27***
2008		0.25***	0.35***
2009		0.38***	0.52***
2011		0.25***	0.35***
2014		0.096+	0.23***
2017		0.25***	0.39***
Individuals	14799	14795	14795
Observations	49299	49289	49289

Note: significance levels: $+\,p < 0.10$. $*p < 0.05$. $**p < 0.01$. $***p < 0.001$. Source: Swiss Household Panel (SHP)

Table A6   Descriptive statistics related to the number of observations
                  contributing to the dynamic analysis

Duration	Absolute frequency	Relative frequency
5 years before or more	1494	21.41
4 years before	306	4.39
3 years before	722	10.35
2 years before	646	9.26
1year before	1024	14.67
1 year after	1396	20.01
2 years after	357	5.12
3 years after	226	3.24
4 years after	215	3.08
5 years after or more	592	8.48

Source: Swiss Household Panel (SHP)

Table A7   Dynamic fixed effects of union membership on four dimensions
                  of job satisfaction

	Working conditions	Income	Work atmosphere	Risk of unemployment
Duration (ref. 5 years before or more)				
4 years before	−0.029	−0.12	−0.026	−0.21
3 years before	0.033	−0.16	0.026	−0.22
2 years before	0.016	−0.16	−0.017	−0.14
1 year before	−0.025	−0.11	−0.018	−0.044
1 year after	−0.073	−0.26*	−0.10	−0.00051
2 years after	−0.20	−0.16	0.017	−0.17
3 years after	0.032	−0.10	−0.045	−0.056
4 years after	−0.14	−0.063	−0.17	−0.15
5 years after	−0.19	−0.090	−0.18	−0.44
Gender male	0	0	0	0
Age (ref. 0–25 years)				
Age 26–65 years	−0.18	0.046	−0.11	−0.019
Age 66 years or more	−0.43	−0.36	0.12	−0.73
Education (ref. primary)				
Education secondary	−0.26	−0.74***	0.19	1.07***
Education tertiary	−0.061	−0.33	0.14	0.73*
Nationality foreigner	−0.13	−0.19	0.46	−0.48

Continuation of table A7 on the next page.

Continuation of table A7.

	Working conditions	Income	Work atmosphere	Risk of unemployment
Region (ref. Lake Geneva)				
Region Middleland	0.43	0.17	0.45	−0.54
Region Northwest	0.99	0.30	0.88	−0.052
Region Zurich	1.11+	0.94	1.04+	−1.06
Region East	1.14+	0.81	1.03+	−0.88
Region Central	1.22*	0.82	1.19*	−0.48
Region Ticino	−1.27**	3.32***	−0.50	−0.92
Marital status couple	0.23*	0.15	−0.026	−0.035
Year (ref. 1999)				
2000	0.14+	0.060	0.019	−0.27*
2001	0.051	0.10	0.012	−0.11
2002	−0.0017	0.041	−0.038	−0.12
2003	0.13	0.079	−0.035	0.086
2004	−0.041	0.17	0.031	0.54**
2005	0.025	0.19	−0.021	0.49*
2006	−0.11	0.13	−0.16	0.33
2007	−0.25	0.14	−0.16	0.27
2008	−0.18	0.27	−0.28+	0.35
2009	−0.28+	0.21	−0.27+	0.28
2011	−0.063	0.25	−0.26	0.28
2014	−0.081	0.39+	−0.17	0.020
2017	−0.27	0.35	−0.083	0.18
Individuals	1678	1673	1664	1673
Observations	6969	6966	6861	6893

Note: significance levels: + p < 0.10. *p < 0.05. **p < 0.01. ***p < 0.001. Source: Swiss Household Panel (SHP)

(When) Do Critical Life Events Push People to the Populist Radical Right? Support for the Swiss People's Party Following Relationship Dissolution, Unemployment or a Health Crisis

Marieke Voorpostel*, Ursina Kuhn*, and Gian-Andrea Monsch*

Abstract: Using the Swiss Household Panel, we examine whether experiencing relationship dissolution, unemployment, or a health crisis increases support for the Swiss People's Party (SVP). Fixed effects models shows this to be the case. Changes in financial resources, attitudes or trust in the government cannot explain this effect. Finally, we test whether increased support for the SVP following these events is more likely among individuals with lower trust and income levels and with views similar of those of the SVP. We find that individuals with traditional gender values are more likely to support the SVP after separation.

Keywords: critical life events, populist radical right, party preference, panel data

(Quand) les événements critiques de la vie poussent-ils les gens vers la droite populiste ? Soutien à l'UDC à la suite de la séparation, du chômage ou d'une crise de santé

Résumé : À l'aide du Panel suisse de ménages, nous examinons si une séparation, le chômage ou une crise de santé augmentent le soutien au Parti union démocratique du centre (UDC). Les modèles à effets fixes montrent que c'est le cas. Les changements dans les ressources financières, les attitudes ou la confiance dans le gouvernement ne peuvent expliquer cet effet. Enfin, nous vérifions si un soutien accru à l'UDC suivant un évènement est plus probable chez les personnes ayant des niveaux de confiance et de revenu plus faibles et des opinions similaires à celles de l'UDC. Nous constatons que les personnes ayant des valeurs traditionnelles de genre sont plus susceptibles de soutenir l'UDC après une séparation.

Mots-clés : événements de vie critiques, droite populiste, préférence partisane, données du panel

(Wann) drängen kritische Lebensereignisse Menschen zu den populistischen Parteien? Unterstützung der SVP nach Trennung, Arbeitslosigkeit oder Gesundheitskrise

Zusammenfassung: Mit dem Schweizer Haushalt-Panel untersuchen wir, ob eine Trennung, Arbeitslosigkeit oder eine Gesundheitskrise die Unterstützung für die Schweizerische Volkspartei (SVP) erhöht. Fixed Effects Modelle zeigen, dass dies der Fall ist. Veränderungen der finanziellen Ressourcen, der Einstellungen oder des Vertrauens in die Regierung können diesen Effekt nicht erklären. Schliesslich testen wir, ob eine verstärkte Unterstützung für die SVP bei Personen mit geringerem Vertrauens- und Einkommensniveau und mit ähnlichen Ansichten wie die SVP wahrscheinlicher ist. Wir stellen fest, dass Personen mit traditionellen Geschlechterwerten die SVP nach der Trennung eher unterstützen.

Schlüsselwörter: kritische Lebensereignisse, Rechtspopulismus, Parteipräferenz, Paneldaten

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1   Introduction

Critical life events, such as a relationship dissolution, loss of a job or a health crisis, have profound consequences in many life domains. They are often accompanied by a loss in resources and increased stress levels and may change future prospects and expectations. As a result, they may translate into changed views on society and the role of the government, with the potential to affect political party preferences.

Previous research has demonstrated that relationship dissolution affects political party preference in Switzerland. Based on longitudinal data from the Swiss Household Panel, Voorpostel and colleagues (2018) showed that separation increased the likelihood to support the populist right Swiss People's Party (SVP). This finding was contrary to the anticipated shift to the left following separation (Chapman 1985; Fahs 2007; Smith 2007; Wilson and Lusztig 2004); with decreasing financial resources and often increased need for support such as childcare, separation was thought to increase support for left-wing parties. Our study expands on previous work on the association between life events and support for the populist right by assessing multiple life events, namely separation, unemployment and a health crisis.

The literature on voting behaviour provides many explanations for the support of populist right parties (Arzheimer 2011; Bornschier and Kriesi 2012; Oesch 2008). Studies that looked at populist right party support on the individual level have shown that losers of globalisation (economic dimension), individuals with xenophobic and inward looking attitudes (cultural dimension) and citizens with low levels of trust in the political establishment (political dimension) are relatively more likely to vote for the radical populist right. We test whether these arguments explain increased support for the SVP following critical life events. A critical life event may decrease financial security, change life prospects and produce uncertainty, through which it may affect each of these three dimensions. We argue that these changes make individuals more likely to recognize themselves in the discourse of the SVP promoting an exclusionist view on society, as well as a firm stance against immigration and European integration (Bernhard 2017; Betz 1994), and eventually result in increased support for this party. Finally, we examine whether increased support for the SVP following a critical life event may be especially likely among individuals with lower income levels and those who already are close or in line with the views of the SVP prior to the event.

2   Theoretical background

2.1   The Swiss People's Party, populist radical right wing party support and volatility in political party preference

Populist radical right parties have a common ideology based on nativism, authoritarianism and populism (Mudde 2007). The SVP is part of this party family that has gained substantial electoral support over the last decades in Switzerland and in Western democracies in general (Bernard 2017). The SVP has evolved from a conservative agrarian party to a radical right and increasingly authoritarian party (McGann and Kitschelt 2005). The SVP strongly opposes immigration and European integration and advocates traditional gender roles. Although the SVP is the largest party in Switzerland (with a vote share of 26 per cent in 2019) and part of the Swiss federal government, with its populist discourse it presents itself and is perceived as an opposition party rather than as a part of the political establishment.

Explaining support for the populist radical right in general and for the SVP in particular does not differ from explaining support for other parties (Arzheimer 2018) and is based on the idea that political preferences are replacing class and religious cleavages (Bornschier and Kriesi 2012, 10). This shift from social structure to individual preferences proposes three explanations for support for the populist radical right: an economic, cultural and political explanation.

The economic explanation argues that the so-called "losers of globalisation" who are confronted with wage pressure and competition over welfare benefits are attracted by populist radical right parties who have endorsed a protectionist stance and fight European and other forms of economic integration (Borschnier and Kriesi 2012; McGann and Kitschelt 2005). The empirical evidence shows that typical populist radical right wing voters are predominantly low educated young men belonging to the working or lower middle class or who are unemployed (Arzheimer 2011). Besides economic protectionism, the political agenda of these parties also conveys a shelter for the "homeland culture". This is the cultural explanation for the electoral success of populist radical right parties when they portray immigration and further European integration as a threat to national identity, security and the welfare state (Amengay and Stockemer 2018; Rydgren 2007; Bornschier and Kriesi 2012; Oesch 2008). Xenophobic attitudes, especially anti-immigrant sentiments, have proven to be a crucial explanation of populist radical right voting (Arzheimer 2011). Finally, according to the political explanation put forward to explain the success of the populist radical right, citizens who are dissatisfied with the state of democracy in their country are sensitive to an anti-elite discourse challenging mainstream parties (Kitschelt and McGann 1995; Oesch 2008). These three explanations are related to each other. As Betz (1994) has already argued two decades ago, radical social and economic transformations generate feelings of anxiety, disenchantments and resentment within the most vulnerable segments of society (economic explanation). The

populist radical right has succeeded in mobilizing these social groups by pointing to the unresponsiveness of the political establishment (political explanation) and by identifying immigrants as scapegoats (cultural explanation).

The cultural explanation has proven to be the most important one for populist radical right voting in Switzerland, but also in other Western European countries (Arzheimer 2011; Lubbers and Coenders 2017). In Switzerland, exclusionist views, such as protection of the national identity against outsiders (Oesch 2008, 349), anti-universalistic cultural preferences (Bornschier and Kriesi 2012, 28) or generally negative attitudes towards immigration (Ackermann et al. 2018, 553–554), have been found to be strongly correlated with support for the populist radical right.

Our study focuses on a change in preference for the SVP, which implies that we assess volatility in party preference. As individual preferences have become more central to political party choice, volatility in party preference has increased. Although studies have shown that most voters have stable party preferences (Kuhn 2016; Plutzer 2002; Prior 2010), a significant minority of voters change their party preference over time (Nicolet and Sciarini 2006). This volatility is not random; rather, voters tend to change between parties that are closely aligned (Kuhn 2009; Van der Meer et al. 2015). The literature suggests several drivers of volatility in political party preference. A number of these drivers reflect individual circumstances and attitudes, such as changes in a person's financial situation (Sanders and Brynin 1999), changes in attitudes and values or in salience of these values (Aarts and Thomassen 2008) and decreased trust in political parties and in democracy (Dalton and Weldon 2005; Dassonneville 2012). We argue that these drivers of volatility become salient in the face of critical life events and may lead to changes in political party preferences. The direction in which they change is expected to increase the likelihood of supporting the SVP.

2.2   Literature review: critical life events and populist radical right voting

Our study focuses on three critical life events: relationship dissolution, unemployment and serious health problems. A commonality of these events is that they tend to have negative consequences in multiple life domains. They are discrete events that negatively affect health and well-being, increase stress levels and are the events typically included in studies on these outcomes (Luhmann et al. 2012). As such, these events may profoundly change one's views of the world and one's place in it (Janoff-Bulman 1999) and, as a result, have the potential to affect political party preferences.[1]

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[1]   Another negative life event often studied is bereavement. We tested the effects of a household member or a close person's death but did not include bereavement into the analysis because its consequences on various life domains are less direct. We did not find any effect on party preferences.

While some US studies have demonstrated that a link exists between negative feelings and populist radical right support for entire life trajectories (Cramer 2016; Hochschild 2016), only a few studies have directly linked life events to vote intention for the populist radical right at the individual level. In their study on the link between relationship dissolution and political party preference, Voorpostel and colleagues (2018) showed that this type of critical life event has a small but significant effect on party preference, showing, in particular, an increase in support for the SVP. However, a study based on data from the UK showed no effect of this event on party preference (Kern 2010).

The relationship between the event of unemployment and populist radical right voting has received more research attention. Many studies on the relationship between unemployment and populist radical right voting show that unemployment and job insecurity are associated with increased support for the populist radical right, both in cross-sectional (Corbetta and Colocca 2013) and longitudinal studies (Geishecker and Siedler 2011; Rink et al. 2008). However, some studies have found no relationship (Schmitt-Beck et al. 2006) or only for individuals with high levels of political interest (Kohler 2002). Others have demonstrated that negative work experiences lead to political alienation rather than to right-wing voting (Schraff 2019).

The study of health impediments and political attitudes and behaviour has received little attention. Schur and Adya (2013) showed with US data that people with disabilities tend to favour more government involvement in employment and healthcare but also are more critical of government responsiveness and trustworthiness. It remains to be seen to what extent these findings translate to health crises more generally in the Swiss context.

2.3 Linking critical life events to increased support for the SVP

What is it about these life events that could make the populist radical right more attractive to those who experience them? In contemporary society in which responsibility for success or failure is increasingly individualized, fear and insecurity associated with these events may translate into resentment for perceived 'enemies' such as immigrants but also mainstream politics (Salmela and Von Scheve 2017). Betz' (1994; 2005) prominent theory on the emotion of resentment suggests that support for populist right wing parties mainly comes from those who experience insecurity about their identity, work and entire life; fear the loss of social cohesion and traditional social bonds; or experience distrust in politics and democracy. The experience of critical life events with significant negative consequences could be important drivers of such feelings of alienation, insecurity and distrust and be related to the main factors explaining voting for the populist radical right.

With regard to the economic explanation of populist radical right voting, it has been well-established that the three life events in this study all tend to be accompanied by a drop in income, which may lead to financial difficulties (Batavia

and Beaulaurier 2001; Brand 2015; Schofield et al. 2010; Vaus et al. 2017). One's financial situation may affect political orientations, such as views on the role of the welfare state (Andersen and Curtis 2014).

The cultural explanation for populist radical right voting focuses on attitudes. A number of psychological studies have demonstrated a relationship between life events and changes in attitudes (Bardi et al. 2009). The theoretical approach behind these studies focuses on the role that uncertainty plays and states that unexpected events lead to the need for affirmation of beliefs (Heine et al. 2006). Based on longitudinal data from the US, Randles and colleagues (2017) showed that the experience of events such as bereavement, relationship dissolution or financial difficulties increased a preference for conservative perspectives, as well as made people more polarized in existing beliefs. Hatemi (2013) found that individuals who suffered an economic risk event (e. g., major financial problems, unemployment, divorce or separation) were less supportive of immigration. Individuals who face deteriorating circumstances following critical life events may feel more vulnerable and hence may buy into the SVP's narrative on immigration and social spending.

With regard to attitudes, we also consider views on gender as the SVP advocates traditional gender roles. According to their view, mothers of young children should not be in the labour force and the state should not spend money on childcare, which is seen as a private responsibility. In this sense, it deviates from a number of successful far-right European populist parties that have embraced more progressive values (Duina and Carson 2019). As relationship dissolution, unemployment and serious health problems all likely affect the division of labour in the household, these events may also shift attitudes on gender roles towards the attitudes of the SVP.

Little is known about whether critical life events decrease trust in government, which captures the political explanation for populist radical right support (Billiet and de Witte 1995; Hooghe et al. 2011). All three events are likely to increase contact with and dependence on public authorities and services, which have the potential to affect the trust people place in the government in general.

In sum, the experience of each of these three critical life events may affect financial resources, lower confidence in the government and change citizens' attitudes closer to the positions held by the SVP. While there is some evidence that all three life events decrease political engagement in general (Voorpostel and Coffé 2012; Schraff 2019; Schur and Adya 2013), a switch to the SVP is a theoretically plausible alternative.

2.4   Our study

We examine the relationship between critical life events and SVP voting in three steps. First, we check whether such a relationship exists: are individuals who experienced one of the three events more likely to support the SVP after the event? In an effort to explain this relationship, we explore in a second step the extent to which changes

in the aforementioned explanatory factors of income, attitudes and trust associated with these events explain the relationship between life events and SVP preference. Finally, the same life event may have very different effects on different people; the lack of resources to cope with critical life events, especially for those from lower socio-economic classes, may make experiencing them all the more stressful, fuelling feelings of threat and marginalisation (Bjørklund 2007). This, in turn, may increase support for populist right wing parties particularly among the lower income group. Also, it may not be very likely that individuals who are positioned far away from the radical right electorate in terms of attitudes, would change their views so dramatically following a life event and express a preference for the SVP. More likely, individuals already aligned with the views of the populist radical right may be the most likely to support the SVP following a life event. Additionally, individuals with lower levels of trust prior to the event may be more likely to prefer the populist radical right after. Hence, in a final step we will assess whether the increased support for the SVP is especially likely to occur among individuals with fewer financial resources, individuals with views already closer aligned with the SVP's programme and those with lower levels of trust prior to the event.

3   Data and method

3.1   Data and sample selection

We use data from the three main SHP samples (which started in 1999, 2004 and 2013) and the supplementary sample for the canton of Vaud that started in 2013.[2] Because political variables and gender attitudes have not been collected in all survey years, the analysis is restricted to the years 2002–2009, 2011, 2014 and 2017. The selection of the years has impacts on the results. The effect is strongest in the period before 2015, which is the year the SVP reached its best electoral result so far (29.4 % in the national election) and was again represented with two seats in the federal council.[3]

We do not use survey weights because the standard weights do not correct bias for political variables. Moreover, by excluding foreigners and young individuals (who have no right to vote), we analyse a specific sub-group of the SHP sample. In addition, we selected for each event a treatment group (those who experienced the event during the period of observation) and a control group of individuals who did not experience the event but were at risk of the event occurring.

Regarding the separation variable, the control group refers to partnered individuals who have cohabited (either married or unmarried) for at least two years. The

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2   In total, we had 44,026 observations (person-years) from SHP I (or 62%), 18,818 from SHP II (or 26%), 44,026 from SHP III (or 10%) and 1,353 SHP VD (or 2%).

3   The limited number of events does not allow us to analyse different time periods separately.

treatment group consists of individuals who have become separated since the last time they were observed. These individuals are kept in the sample as long as they remain separated (n=2,254 for the survey years with political and gender variables).

For unemployment, we consider respondents in the main working-age range (25 to 64 years). The control group consists of working individuals who do not report unemployment. The treatment group (n=562 for the survey years with political and gender variables) consists of individuals who transitioned from working to unemployment since the last time they were observed. They remain in the treatment group as long as they remained unemployed.

For health crises, we consider respondents in the main working-age range (25 to 64 years). The control group includes economically active individuals (working or unemployed). The treatment group consists of individuals who stopped working in the last 5 years and name health problems as the reason for not working (n=479 for the years that included political and gender variables), independently of whether they are currently working, unemployed or inactive.

3.2 Measures

3.2.1 Dependent variable

The dependent variable is vote intention for the SVP. Vote intention was determined by asking the (open) question, which party respondents would vote for if elections for the National Council were held tomorrow. Respondents who express a vote intention for the SVP are coded 1. Respondents who intend to vote for another party, have no vote intention, do not know their intention or vote for a candidate not for a party are coded as 0. Respondents who refuse to answer the question are excluded from the analysis. Because our dependent variable groups together preferences for other parties with having no preference, our results do not distinguish between voters intending a shift from a different party to the SVP and newly mobilized voters for the SVP. However, the results remain the same if we exclude respondents without a party preference from the analysis.

3.2.2 Independent variables

The main independent variable of interest is the binary event variable indicating whether the event occurred (treatment group) or not (control group) as described in section 3.1. The same person may have experienced multiple events or the same event multiple times. In these cases, every occurrence is included in the treatment group.

We include also the main variables that should explain SVP support. Economic resources are measured by disposable household income, and missing values have been imputed. We include a linear variable referring to the income percentile of each year.[4] We also include measures for political attitudes for both the economic (social

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4   Our findings are consistent with various alternative income measures (absolute values, logarithm, income quintile, personal income and satisfaction with income).

spending) and cultural dimensions (xenophobia). For the Confederation's social spending, we distinguish between individuals who are in favour of a diminution, individuals who are in favour of an increase and individuals who favour neither. For xenophobia, we distinguish between individuals who are in favour of Switzerland offering Swiss citizens better opportunities than foreigners, and individuals who selected one of the two other alternatives: in favour of equal opportunities or favouring neither category. Gender attitudes are measured by agreement to two statements on a scale of 0 to 10: "A pre-school child suffers if his or her mother works for pay" and "to have a job is the best guarantee for a woman as for a man to be independent". These commonly used items measure the attitude toward traditional gender roles legitimacy in society. The political explanation for populist radical right support is captured by questions on trust in the Federal Council (0-10).

3.2.3 Control variables

Using fixed-effects models, all time-invariant characteristics (e.g., cohort, education, gender) cannot bias the coefficients and are not part of the model. We include age and period effects as controls. Electoral campaigns have an effect on volatility (Kuhn 2016, 170 ff). The closer elections are, the more likely citizens are to change from no party preference to a preference for a party (activation effect) and the more likely they are to switch from one party to another (persuasion effect). Support for the SVP is significantly higher in the years of national elections (1999, 2003, 2007, 2011, 2015) than in other years. We therefore measure period effects by including an indicator for election years.

Table 1 presents the descriptive statistics of all variables included in our models. We show descriptive statistics for Swiss citizens 18 years of age and above and survey years that include political variables. The analytical sample varies slightly between the events studied. The analysis on unemployment and health crisis cover only the main working years (25–64 years) and exclude inactive individuals (e.g. homemakers). The separation sample excludes individuals who have never lived with a partner during the panel study. The mean values of the variables therefore vary slightly between the different samples.

3.3 Methods of analysis

We first compare, for the three events separately, observations from individuals after they experienced the event with observations from before the event and from individuals who did not experience the event with respect to the likelihood of supporting the SVP. This cross-sectional approach serves as a reference before we test our hypotheses using a longitudinal approach.

We apply fixed-effects regression models to test our hypotheses. We use the linear probability model to estimate the fixed-effects models but check the robustness of our findings using nonlinear logistic regression. The main advantage of this longitudinal

Table 1   Descriptive statistics of the sample

	min	max	N	Mean	St. Dev
SVP	0	1	49258	0.121	0.326
Separation	0	1	49659	0.012	0.107
Unemployment	0	1	42809	0.013	0.114
Health crisis	0	1	42401	0.017	0.131
Age	18	97	49659	51.242	14.147
Election year	0	1	49659	0.238	0.426
Lowest income quintile	0	1	49629	0.140	0.347
Less social expenses	0	1	45974	0.220	0.414
More social expenses	0	1	45974	0.359	0.480
Better chances for Swiss	0	1	45974	0.300	0.458
Job important for independence	0	10	46057	8.171	2.331
Children suffer with working mother	0	10	45434	5.576	3.213
Trust in Government	0	10	45985	5.670	2.076

Source: SHP (2002-2009, 2011,2014,2017). The descriptive statistics of the control variables are based on the separation sample.

approach is the identification of causal effects because we can rule out that selection into the event drives the results. In the first step, we ran a fixed-effects model for each event that controlled for age and election year, to test to what extent critical life events increase the probability of supporting the SVP. In the second step, we ran fixed-effects models that controlled for income, political and gender attitudes and political trust, to test whether changes in these variables had mediating effects. We use the same sub-sample for both analyses so that we can compare coefficients between models. If the regression coefficient of life events declines once the mediating variables are controlled in the model, we can conclude that these variables (income, attitudes and trust) are part of the mechanisms linking critical life events and populist votes. In the third step, we interact the life events with income and attitudes to test for cumulative effects. To avoid the arbitrary dichotomous distinction of results according to p-values, we focus on the effect size to interpret regression coefficients. We discuss effect sizes, direction of the effects and the plausibility of rejecting the zero-hypothesis for all effects whose p-values are lower than 0.1.[5]

4   Results

We first look at vote intention for the SVP by event from a cross-sectional perspective. Table 2 compares observations from individuals who experienced the event with

5   When applying a p-value of 5%, the significance of effects depends on small coding decisions. When focusing on effect sizes, such arbitrary choices do not affect the conclusions.

observations from individuals who did not or have not yet experienced the event. The difference is only significant for separation. Separated individuals are less likely to support the SVP than partnered individuals, which is in line with results from previous cross-sectional studies. Unemployment and health crisis have no significant relationship with vote intention for the SVP. These results confirm that life events are not important factors to explain support for populist radical right parties from a cross-sectional perspective.

To test an intra-individual change in SVP preference, we look at the results of our fixed-effects models (Table 3). With models 1, 3 and 5, we test whether experiencing one of the events raises the propensity for right-wing party support. These models include only basic control variables (age and election year) that are clearly exog-

Table 2   Cross sectional results: vote intention for the SVP by event

		no event/ before event	after event	total	p-value
Separation	%	12.3	8.9	12.1	0.000
	n	41,966	2,152	44,118	
Unemployment	%	11.4	10.2	11.4	0.166
	n	37,795	519	38,314	
Health crisis	%	11.4	13.8	11.4	0.282
	n	37,693	441	38,134	

Note: significance of the difference is tested by pooled logistic regression controlling for clustering within persons. Source: SHP (2002–2009, 2011, 2014, 2017)

enous to the event. We find that all three events increase support for the SVP by 2 to 3 percentage points. For the health crisis, although the coefficient is of similar magnitude, it reaches significance only at the 10% level.

These results do not show why we found such an effect. Therefore, we evaluate whether the main explanations for right-wing support mediate this effect. Models 2, 4 and 6 include political and gender attitudes, trust in government and income. In line with research on right-wing support, political attitudes are the most important predictor. Moreover, being in favour of fewer social expenses is as important as xenophobia. Gender values do not explain SVP support. Trust in government has a small effect on SVP preference. An income change does not seem to influence vote intention for the SVP. Contrary to our expectations, the coefficients of the event variables are unaffected by the inclusion of these supplementary variables. Hence, these events do not produce a drop in resources, changing issue opinion or a decrease in political trust that would explain why voters are more likely to support the SVP following a critical life event.

Table 3   Fixed effects models predicting SVP preference following three life events (separation, unemployment, health crisis)

	Separation		Unemployment		Health crisis	
	M1	M2	M3	M4	M5	M6
Event	0.025***	0.025***	0.027**	0.028**	0.026*	0.027*
	(3.2)	(3.2)	(2.4)	(2.5)	(1.7)	(1.7)
Lowest income quintile		−0.000		−0.000		−0.000
		(−0.6)		(−0.9)		(−0.6)
Less social expenses		0.021***		0.021***		0.021***
		(5.9)		(5.3)		(5.4)
More social expenses		−0.003		−0.007**		−0.006*
		(−0.9)		(−2.1)		(−1.7)
Better chances for Swiss		0.017***		0.021***		0.020***
		(4.9)		(5.5)		(5.3)
Job important for independence		0.001*		0.001		0.001
		(1.7)		(1.5)		(1.4)
Children suffer with working mother		0.001		0.000		0.000
		(1.0)		(0.4)		(0.3)
Trust in Government		−0.001		−0.002**		−0.002*
		(−0.8)		(−2.0)		(−1.8)
Age	0.001***	0.001**	0.001***	0.001***	0.001***	0.001***
	(3.1)	(2.3)	(3.8)	(3.0)	(3.6)	(2.7)
Election year	0.022***	0.022***	0.023***	0.023***	0.023***	0.023***
	(9.6)	(9.6)	(9.4)	(9.5)	(9.5)	(9.5)
Constant	0.070***	0.064***	0.055***	0.058***	0.058***	0.060***
	(5.0)	(4.2)	(4.0)	(3.9)	(4.1)	(3.9)
R-squared	0.003	0.005	0.004	0.006	0.004	0.006
Number of persons	10 106	10 106	9 548	9 548	9 603	9 603
Number of observations	44 098	44 098	38 294	38 294	38 256	38 256

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; Source: SHP (2002–2009, 2011, 2014, 2017). T-statistics in parentheses.

The coefficients in models 2, 4 and 6 also allow us to interpret the size of the effect. Although an effect of 2 to 3 per cent seems modest, our model shows that the effect of the critical event is comparable to the effect of known explanations of populist radical right voting, such as xenophobia. Also, given that the overall probability to support the SVP amounts to only 12 per cent, an increase of 2 to 3 per cent is considerable.

Table 4   Summary of fixed effects models predicting SVP support including interaction effects between event and income, attitudes, and political trust (separate model for each interaction)

	Separation		Unemployment		Health crisis	
	Coef.	t	Coef.	t	Coef.	t
Event	0.034*	(1.7)	−0.036	(1.3)	.041**	(2.3)
Event* Income percentile	−0.000	(−0.5)	0.001**	(2.4)	−0.104	(−1.6)
Event	0.027**	(2.3)	0 .011	(0.6)	0.047*	(1.8)
Event * More social expenses	−0.004	(−0.2)	0.032	(1.1)	−0.041	(−1.0)
Event	0.032***	(3.5)	0.032**	(2.5)	0.009	(0.5)
Event * Less social expenses	−0.038	(1.5)	−0.034	(−0.8)	0.101	(1.7)
Event	0.031***	(3.2)	−0.039***	(2.7)	0.008	(0.4)
Event*Better chances for Swiss	−0.021	(1.0)	−0.040	(−1.3)	0.055	(1.3)
Event	0.133***	(3.7)	0.047	(1.1)	0.036	(0.6)
Event*Job important for independence	−0.013***	(-3.1)	−0.003	(−0.5)	−0.001	(0.1)
Event	−0.013	(-0.8)	0 .060	(2.2)	0.002	(0.1)
Event*Children suffer with working mother	0.007	(2.5)	−0.006	(−1.3)	0.004	(0.8)
Event	0.002	(0.1)	0.058*	(1.8)	0.037	0.87
Event* Trust in Government	0.004	(1.1)	−0.006	(−1.0)	−0.002	(−0.3)

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; Source: SHP (2002-2009, 2011, 2014, 2017). T-statistics in parentheses.

We further interact the event variable with traditional explanations for right-wing support. We focus on the same variables (income, less social expenses, more social expenses, better chances for Swiss, job importance for independence, children suffering with a working mother and trust in government) as in the previous models. For the interaction, we take the mean value before the occurrence of the event. With seven interaction variables and three events, we estimated 21 separate models. Only three models show a significant interaction term. Figure 1 shows the significant interaction terms. The full models for these graphs are shown in Table 4.

Whereas we found no main effect of traditional gender values on SVP preference, we found four significant interactions that moderate the effect of negative life events on SVP support. Following separation, especially individuals with traditional

Figure 1   Predicted probability to support SVP following negative events for
                    different values of the gender variables and income levels
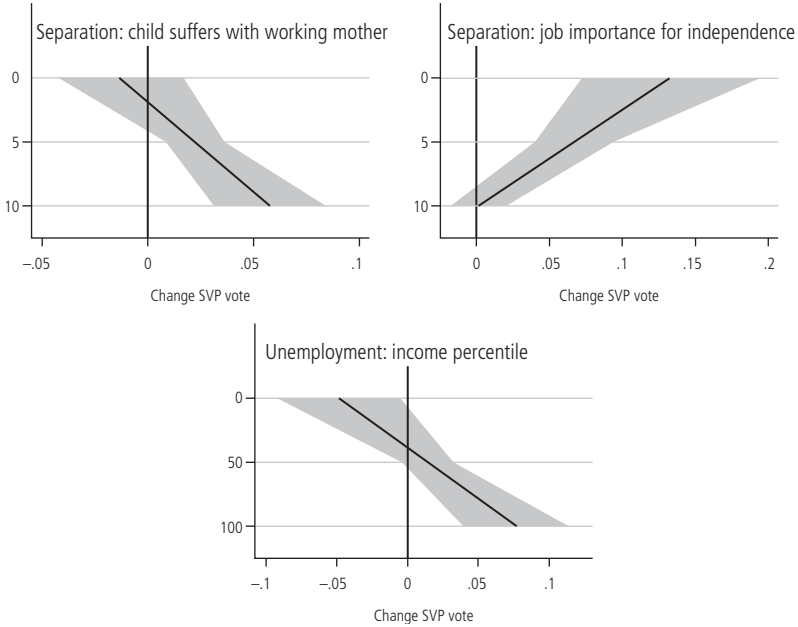
gender role values seem to switch to the SVP. Individuals who agree that pre-school children suffer with a working mother increase their SVP support after a separation. The same holds for individuals who disagree that a job is important for independence for a woman as for a man (see Figure 1). Thus, separation has the strongest effect on those who share the traditional family values of the SVP prior to the event. It is interesting that gender attitudes prior to the event matter, whereas main determinants of radical right voting such as anti-EU sentiments and xenophobic attitudes do not.

We also found a significant interaction between unemployment and income, although at a lower significance level. Individuals with higher income prior to unemployment are more likely to support the SVP following unemployment than individuals with lower income. This is contrary to our expectation that especially individuals with fewer financial resources would be more likely to prefer the SVP following a critical life event. Perhaps the financial consequences of unemployment are larger for individuals with a higher income, as they may experience a larger drop in income when they rely on unemployment benefits. Alternatively, the higher dependency of poorer individuals on financial support by the government could limit their support for the SVP in case of a job loss either due to unemployment or for health reasons.

5   Conclusion

This study set out to assess the relationship between critical life events and populist radical right support. We examined the extent to which individuals experiencing relationship dissolution, unemployment or a health crisis change their party preference to the SVP and tested whether changes in attitudes, resources and political trust would explain changes in party preference. We found that the experience of all three critical life events increased the likelihood of supporting the SVP by 2 to 3 per cent. This shows that experiencing life course events has consequences for intended voting behaviour. On one side, this insight adds to our understanding of the sometimes far-reaching consequences of critical life course events, showing that they go beyond direct consequences for the individual involved, and reach the political domain, with potential consequences for society in terms of election outcomes. On the other side, it sheds light on potential drivers of volatility in political party preference and support for the populist radical right. People's party preference is not only determined by social class, the state of the economy or electoral campaigns (Bornschier and Kriesi 2012; Oesch 2008) but also by significant events that take place in citizens' personal lives. Moreover, we demonstrate that with respect to support for the SVP, in a fixed-effects model, the experience of these critical life events is as important as changes in well-known cultural determinants such as xenophobia.

Whereas our study showed that support for the SVP increases following relationship dissolution, unemployment or a health crisis, we were less successful in demonstrating why this happens. We explored conventional explanations for populist radical right support as potential drivers of the effect, expecting that life course events affect financial resources and may lead to more conservative attitudes, more extreme attitudes and a worse relation to politics. We found that although they were important for predicting a preference for the SVP, they did not explain why relationship dissolution and unemployment increase SVP support. Whereas studies have shown that critical events in the life course may change attitudes (Bardi et al. 2009), they are not necessarily affected in the same way for everyone. Randles and colleagues (2017) found that following life events, existing attitudes became more polarized. Moreover, the way in which life events affect attitudes may depend on the attitudes prior to the occurrence of the event, which paints a more complex picture than the hypothesized same direction of change for all. We found limited empirical support for this assertion. In most cases, the effect of critical life events on a preference for the SVP was not more pronounced for individuals who were closer aligned with the views of the SVP prior to the event. There were only two exceptions to this. Individuals with a higher income were more likely to prefer the SVP following unemployment, and individuals with more traditional gender attitudes were more likely to shift to the SVP following separation. It may be that

the experience of separation make gender values more salient as they touch most directly on the private sphere.

The extent to which our findings are valid in another context than Switzerland remains to be explored. The Swiss context is particular not only with respect to the political landscape but also with respect to the consequences of these critical life events. For example, factors such as high divorce rates and low unemployment rates may affect how people experience these events. Also, social policies such as universal health care and generous unemployment benefits soften the negative consequences. It would be interesting to see to what extent our findings hold elsewhere.

More work is needed to shed light on the ways in which critical life events shape support for the SVP and change political attitudes and party preferences in general. When it comes to populist radical right support and support for any other political party, the considerations that lead to supporting a party are not only rational in nature but also have an emotional component (Hochschild, 2016). Critical life events may produce uncertainty in a person's life, they may also increase uncertainty about one's identity (Hogg, 2014). Insofar as a populist right wing party offers such a social identity, this may drive increased support following the experience of critical life events. Whereas our data did not allow us to test such a theory, the importance of a threatened identity for populist radical right support has received empirical support in the US context (Hochschild, 2016).

Our study had several limitations. The most notable one is the limited number of events occurring in the data as well as that the SVP is underrepresented in the SHP. It would be wise to expand this research to include other household panels as a way to augment the number of event occurrences to analyse, as well as to see to what extent our findings are valid in contexts outside of Switzerland. Also, we measured vote intentions, but this may not translate directly into actual voting behaviour. Finally, our analysis relies on the assumption that selection into life events is not driven by changing party support or attitudes. Generally, we do not think this assumption is very problematic as it is unlikely that political views influence health, unemployment or separation. Overcoming these limitations, we encourage future studies to further explore the consequences of what happens in individual life courses for political and other societal outcomes.

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Ellen Hertz, Yvan Schulz

Entreprises et droits humains
Les limites de la bonne volonté

PENSER LA SUISSE

Ellen Hertz, Yvan Schulz

Unternehmen und Menschen- rechte
Die Grenzen des guten Willens

PENSER LA SUISSE

Seismo
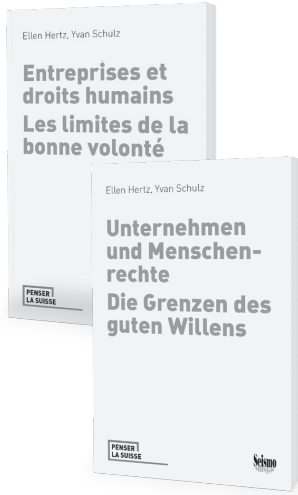
Reihe/Collection Penser la Suisse

En novembre 2020, les Suisses devront voter sur l'initiative populaire «Pour des entreprises responsables – pour protéger les personnes et l'environnement». Les auteur·e·s de ce livre analysent, dans une perspective de sciences sociales, les régimes qui gouvernent actuellement les entreprises multinationales, en se concentrant sur la responsabilité sociale des entreprises (RSE). Malgré des décennies d'efforts, la RSE n'a pas permis de mettre un terme aux graves violations des droits humains et environnementaux. De toute évidence, la bonne volonté des entreprises se heurte à des limites qui résultent des contraintes systémiques auxquelles elles sont confrontées. Le livre conclut que, pour être efficace, la RSE doit être renforcée par du droit contraignant et soumise au contrôle de la société civile. Trouver un juste équilibre entre les normes volontaires et obligatoires n'est pas une question purement technocratique. Ceci exige des choix sociétaux sur la façon de maintenir la place de la Suisse dans l'économie mondiale tout en honorant sa tradition de respect des droits humains et environnementaux.

Ellen Hertz, Yvan Schulz

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Im November 2020 wird in der Schweiz über die Volks- initiative «Für verantwortungsvolle Unternehmen – zum Schutz von Mensch und Umwelt» abgestimmt. Die Autor*innen analysieren aus sozialwissenschaftlicher Sicht die institutionellen und gesellschaftlichen Rahmenbedingungen, denen multinationale Konzerne unterworfen sind, und fokussieren dabei auf die Corporate Social Responsibility (CSR). Trotz jahrzehntelanger Bemühungen ist es den Unternehmen nicht gelungen, schwerwiegende Menschen- und Umweltrechtsverletzungen einzudämmen. Offensichtlich stösst der gute Wille der Unternehmen an systemische Grenzen, die aus den widersprüchlichen Zwängen, denen sie ausgesetzt sind, entstehen. Das Buch kommt zum Schluss, dass die CSR durch die Gesetzgebung gestärkt, und einer Kontrolle von Seiten der Zivilgesellschaft übergeben werden muss, um wirksam zu sein. Die Suche nach dem richtigen Verhältnis aus freiwilligen und verbindlichen Normen ist keine rein technokratische Angelegenheit. Sie erfordert gesellschaftliche Entscheidungen über die Art und Weise, wie die Schweiz ihren Platz in der Weltwirtschaft aufrechterhalten und gleichzeitig ihrer Tradition der Achtung der Menschen- und Umweltrechte gerecht werden kann.

Digital Shift in Swiss Media Consumption Practices

Maud Reveilhac* and Davide Morselli*

Abstract: Relying on the 2013 and 2016 rounds of individual questionnaires from the Swiss Household Panel (SHP), we use multiple correspondence analysis to map Swiss media consumption practices while making use of the longitudinal character of panel data in an innovative way. Our results show that individual practices can be distinguished along two main dimensions: on the one hand, the reliance on new media, which is explained mainly by the age cohort, and on the other hand, the consumption of news, which is explained mainly by changes in political interest as well as by gender.

Keywords: media consumption, social media, longitudinal perspective, MCA

Changement des pratiques de consommation des médias en Suisse

Résumé : À partir des données individuelles des éditions 2013 et 2016 du Panel Suisse des Ménages, nous dressons le portrait des pratiques de consommation médiatique suisse en recourant à l'analyse de correspondances multiples, tout en exploitant de manière innovante le caractère longitudinal des données panel. Nos résultats montrent que les pratiques indivi-duelles comportent deux dimensions principales: d›une part, le recours aux nouveaux médias, essentiellement lié aux cohortes d'âge; d›autre part, la consommation d'informations, basée principalement sur l›évolution de l›intérêt politique, ainsi que le genre.

Mots-clés : consommation des médias, médias sociaux, perspective longitudinale, ACM

Die digitale Veränderung der Schweizer Medienkonsumpraktiken

Zusammenfassung: Basierend auf den Wellen 2013 und 2016 des Schweizer Haushaltspanels, verwenden wir eine Mehrfachkorrespondenzanalyse, um die Schweizer Medienkonsum-praktiken zu beleuchten, und gleichzeitig den Längsschnittcharakter der Paneldaten auf innovative Weise nutzen. Unsere Ergebnisse zeigen, dass sich die Medienkonsumpraktiken in zwei Hauptdimensionen unterteilen: Zum einen lässt sich die Nutzung von Neuen Medien hauptsächlich durch Alterskohorte und den Beschäftigungsstatus erklären. Zum anderen erklärt sich der Nachrichtenkonsum vor allem durch die Veränderung des politischen Inte-resses und durch Geschlecht.

Schlüsselwörter: Medienkonsum, Social Media, Längsschnittperspektive, MKA

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1   Introduction

In the spring of 2018, the oldest ad agency in Switzerland, *Publicitas*, collapsed within a span of a few weeks. It missed the digital shift, having been at the forefront of media until the turn of the year 2000. At the same time, the leading Swiss media company, *Tamedia*, deleted the printed version of one of its main daily newspapers, *Le Matin*, choosing to continue with only a digital version.

The news media are facing profound changes due to the development of digital technology, new competing media that are emerging, and the new individual media patterns that are developing (Willemin 2018). Current media usage is marked by the arrival of new media companies on the Internet and by the prominence of social networks, and Switzerland is no exception. Both media technology and the very essence of news content and consumption are changing: while consumers are especially fond of free news and the dissemination of information is now immediate, online news is often obtained in a fast and superficial way (Flaxman et al. 2016; Eveland et al. 2004), and social media are becoming an important source of information, especially for young adults (Fög 2017).

This study aims to map the media digital shift in Switzerland by drawing from individual media consumption practices, focusing particularly on the relationship between social media and other media usages. More precisely, we focus on two aspects. First, we are interested in detecting whether a digital shift has taken place in media use practices. In other words, can we account for a digital-oriented versus a paper-oriented media consumption space? Second, we aim to explore what individual factors can explain the formation of this new media space and discuss whether the generational divide can be supplemented by another divide related to news skills.

The present study makes use of longitudinal data from the *Swiss Household Panel* (SHP) and relies on a dynamic version of multiple correspondence analysis (MCA) to answer our research questions. The panel nature of the SHP data offers insights that are otherwise masked when researchers rely on population aggregates because it allows us to track changes in consumption patterns. We thus adopt a data-mining approach to investigate media consumption changes among SHP respondents.

In the next section, we begin with an overview of the state of knowledge about media consumption in Switzerland. Then, we describe the main sources of data and present our method of analysis. In addition to providing substantive findings on the mapping of the Swiss media consumption patterns, this study suggests an innovative and dynamic use of MCA that has remained marginal in social sciences practices until now.

1.1   Changing media in a changing society

The societal role of mass media has been studied broadly, especially in relation to public opinion and political propaganda (Kaene 1991; Hart 1999; Street 2005).

In the last few decades, a constructionist approach to the study of public opinion (Bennett 1993; Gamson and Modigliani 1989; Kertzer 2001; Neisser 1976; Price 1988) has moved away from considering media as a mere cause of opinion formation. These studies have moved in the direction of a more complex model in which people and media actors interact and co-create opinions and cultural and political value. According to this approach, the meaning of a particular phenomenon is constructed in the interaction between actors. In the case of media they should not be considered empty vessels to be filled with information; they are actors in interaction with another actor: the media (Ball-Rokeach and DeFleur 1976). This approach to the analysis of media becomes even more relevant when looking at the rising importance of online media, in which actors are often in direct contact, instead of only cognitive exchange. For instance, social media allow people to exchange near-to-real-time information, transmitting news and user-generated content to each other. Similarly, journalists have increased their presence on social media to interact with readers, promote their articles (Hedman and Djerf-Pierre 2013), and gather publishable information (Alejandro 2010).

If the diffusion of new media has often been welcomed as a grassroots process for generating public opinion and making information more democratic, in reality, it goes hand in hand with several aspects that are worthy of concern. First, the cognitive processing of online news is fairly different for different categories of users. Some psychological research has shown that whereas experienced Internet users benefit from the online structure of news, expert users show a drop in attention and information processing (Opgenhaffen and d'Haenens 2011; Tran 2015). Web-based media might indeed facilitate a cognitive overload, which, in turn, is negatively related to information comprehension (Hou and Wang 2016). In other words, online media may make the reader process too much information, compromising the comprehension of its content and resulting in a superficial understanding of news.

Online media have been under the spotlight not only for comprehension but also for a series of side effects on the diffusion and formation of opinions. Some studies have shown that social media tend to increase the polarization of opinions by creating echo chambers, in which people are mostly exposed to opinions similar to their own via social media such as Facebook and Twitter (e. g., Quattrociocchi et al. 2016; Colleoni et al. 2014). This effect is amplified by the increasing use of personalized content by the major web corporations. Automated algorithms facilitate ideological segregation by offering only content from sources that fit the user's preferences and opinions and by creating filter bubbles in which users are rarely exposed to different opinions and viewpoints (Pariser 2011).

Against the expectations of more horizontal and democratic communication, the effects of algorithms on public opinion might be particularly problematic for the correct functioning of a democratic system. Democracy is rooted in the assumption that heterogeneous worldviews and opinions can coexist and counterbalance each

other towards a common goal and reach optimal solutions. Echo chambers and filter bubbles can instead create the illusion where a person believes that everyone believes what he/she believes and that there are no other opinions. Similarly, people might get the impression that only a limited number of events are occurring because news feeds are filtered by algorithms that prompt only preferred (i. e., the most browsed) types of news and topics.

Social media have had an increasing role in political communication, and it has been strategically used by political elites to shift votes and create opinions (Ratkiewicz et al. 2011; see also Woolley 2016 for a review). Thus, we might wonder about the role of online media on direct democracy systems, in which the population is called to vote on various issues several times a year and receiving information on the pros and cons of each issue is pivotal for the functioning of the system. In direct democracy systems, public opinion polarisation and the side effects of online media, such echo chambers and filter bubbles, may have profound political consequences. The long-lasting tradition of direct democracy makes Switzerland a case worth monitoring in the context of a changing landscape and a progressive shift toward online news and social media as information sources.

1.2   The media landscape in Switzerland

In recent decades, the media landscape in Switzerland has been characterized by multilingual complexity, strong public broadcasting of radio and television programming, and a general trend of media concentration and the downsizing of journalism. Echoing the situation in many other European countries, political pressure on public broadcasting has increased. In Switzerland, right-wing politicians launched a popular initiative in 2017, known as *No Billag*, which aimed at abolishing the provision of public funds to the public news service altogether. It was heavily rejected by more than 70% of the electorate. Swiss citizens thus remain loyal to the quality journalism offered by public broadcasting, despite the trends encouraging them to rely ever more heavily on the Internet and social media for information.

Concerning reliance on the Internet, the Swiss section of the *World Internet Project* – a comparative survey conducted every year since 2011 on a representative sample of the Swiss population by the Institute of Mass Communication and Media Research (MCMR) at the University of Zurich – showed a clear pattern towards a digital shift for news consumption (Latzer 2017). The Internet was the most important source of media information in Switzerland in 2017, ahead of newspapers and television. It further showed that average Internet usage time has doubled since 2011 and currently stands at 25.5 hours a week, with young and poorly educated people spending the most time online. The number of non-users declined by half during the past six years, and the number of absolute non-users in Switzerland amounted to approximately 5% of the population.

The 2017 edition of the Annales survey showed that 41% of the Swiss population received information mainly from news sites or through social media (Annales 2017). Concerning the reliance on social media as a source of journalism, the Digital News Report produced by Reuters in 2016 reported that 8% of Swiss news consumers said that social media had become their main source of journalistic information (Reuters 2016), which is similar to trends founds in other European countries (Fög 2018). In 2018, the same report showed that one-third of the Swiss population cited Facebook as a source of news, while trust in news content on social media also remained low, at 22% (Reuters 2018). The 2016 report on media quality in Switzerland showed a correlation between reading only free or lower-quality journalism sources, including social media, and trust in the media system (Fög 2016). Young people, however, remain over-represented among the users of social media platforms as a source of information (Fög 2017).

The increasing reliance on the Internet and on social media as a source of journalism does not necessarily imply that readership is becoming less informed and less interested in keeping up-to-date about the current state of affairs. However, it raises questions about the necessary skills to process a wide amount of available news to distinguish between good and bad information. On May 10, 2017, the Swiss Federal Council published a status report on the legal basis for social media acknowledging that the increased influence of false information on political discourse is currently a source of lively debate, as social media play a central role in spreading fake news (Swiss Federal Council 2017). The growing global debate on fake news (Gorodnichenko, Pham and Talavera 2018) is also reflected in the user behaviour captured in the abovementioned MCMR survey. In the information category, fact-checking (78%) and searching for news (86%) have seen the most significant increases in the past few years. Until 2013, three-quarters of the Swiss population rated at least half of online content as trustworthy. This number dropped to 58% in 2017.

1.3   Two complementary hypotheses on media consumption patterns

These studies show that the Swiss media consumption patterns have constantly changed in the past few years and that readers are increasingly turning to online media for quick information. In this context, the quality of media must adapt to new consumer behaviours, and news agencies must face new economic constraints due to the declining revenue for traditional media.

The consequences of this digital shift concern the entire population, and the notion of what constitutes the news might also be affected. As suggested by Genner (2017), in addition to a generational divide that is expressed in the form of a heavier reliance on social media as a source of journalism among younger people, there is also a divide in the skills to treat the information available. The generational divide hypothesis may therefore also be complemented, rather than opposed, by a skills gap hypothesis. In the long run, there might even be a replacement of the former trend

by the later as technological skills become diffused in society. Furthermore, as the online setting might also amplify opinion polarisation, it is also likely that political factors will play an increased role in the choice of media consumption patterns.

Given the on-going digitisation of news, our main aim is to understand how media information works in relation to online news and to social media while illustrating shifting media usage with individual sociodemographic and political factors. Determining media use, education, socioeconomic status, political interest, and political orientation can be complementary explanatory factors to age. Furthermore, the living context, such as the residential area, may also be important factors. For instance, the pools of potential customers of news media are below the national average in mountain regions and rural areas, where the public (and to a lesser extent private) broadcasting plays a central role, while free newspapers are less important than they are in towns and agglomerations (Hauptli 2017).

2   Data and method of analysis

2.1   Data

The SHP offers unique panel data for Switzerland; it contains questions covering Swiss people's behaviours regarding social media and the broader use of the Internet. The SHP data provide information about individuals' political positioning and interests, as well as information on the occupational status and residential area, and they enable cohort analysis. We rely on wave 15 (2013) and wave 18 (2016) of the SHP questionnaire, which are the only available waves, including media consumption-related questions. We restricted our analysis to a subset of the sample that provided valid responses to a series of questions about individual media consumption in 2013. Our total sample consists of 1970 individuals.

The SHP questionnaire asked about the use of social media, and we recoded the data into three categories: Facebook and Twitter users, other social media users (including LinkedIn, Xing, MySpace and Google+), and people without any social media accounts. Although Facebook and Twitter may encompass different populations, we kept them in a single category to reach a sufficient number of people in each category. Then, we included variables accounting for three broad categories of Internet usage: frequency of chatting, frequency of reading news online and frequency of listening to the radio and watching TV on the Internet. The original scale was recoded into 1 = *frequent use* (which included 1 = *every day* and 2 = *once to several times per week)* and 0 = *rare use* (3 = *once to several times per month*, 4 = *once to several times per year* and 5 = *never)*. Similarly, variables related to paper media consumption were retained and recoded using the same procedure: frequency of reading daily offline newspapers, free offline newspapers, and magazines.

To investigate political attitudes that could impact media consumption patterns, we used the SHP measures of political interest and self-positioning. The original scales ranged from 0 to 10, and to measure the changes in political interest and self-positioning, we subtracted the values from 2016 to 2013, which results in a scale ranging from -9 to +9. Concerning political interest, change was coded into seven categories: *increased level of political interest* (positive values from 2 to 9 from the subtraction); *decreased level of political interest* (positive values from -2 to -9 from the subtraction); *no change* (0 and ±1 from the subtraction) *with medium levels* (from 4 to 6 on the original scale); *no change with very low levels* (from 0 to 1 on the original scale); *no change with low levels* (from 2 to 3 on the original scale); *no change with very high levels* (from 9 to 10 on the original scale); *no change with high levels* (from 7 to 8 on the original scale).

A similar procedure was used to recode the change in political self-positioning into seven categories: change in political self-positioning *to the right* of the political spectrum (positive values from 5 to 9 from the subtraction); change *to the left* (negative values from -5 to -9 from the subtraction); *no change* (0 and ± 1 from the subtraction) *with a centre* political self-positioning (from 4 to 6 on the original scale); *no change at the moderate right* (from 7 to 8 on the original scale); *no change at the extreme-right* (from 9 to 10 on the original scale); *no change at the moderate left* (from 2 to 3 on the original scale); and *no change at the extreme-left* (from 0 to 1 on the original scale).

Several demographic variables were also included in the analysis. We assigned each person to one of six birth cohorts: *<1942*, *1943–1952*, *1953–1962*, *1963–1972*, *1973–1982*, and *1983–1999*. Moreover, we included education level in 2016 that we recoded into four categories (*tertiary*, *compulsory*, *general*, and *vocational*). We also included occupational status in the year 2016 recoded as *active* (originally *full-time paid work (at least 37 hours weekly)*, and *work in protected atelier (for handicapped persons)*, *part-time paid work (5–36 hours weekly* and *part-time paid work (1–4 hours weekly)*), and *inactive* (originally *retired people* and *other retired persons, other situations, further education, non-paid leave* and *work in the family company*). Residential areas were coded into *centres*, *urban* areas (including *suburban municipalities*, *mixed agricultural municipalities* and *peripheral urban municipalities*), *wealthy municipalities*, *tourist municipalities*, *industrial and tertiary sector municipalities*, and *rural areas* (including *rural commuter municipalities* and *peripheral agricultural municipalities*). Last but not least, we also included the 7 large regions of Switzerland (*Zurich*, *Central Switzerland*, *East Switzerland*, *Lake Geneva*, *Middleland*, *Northwest Switzerland*, and *Ticino*), and gender was controlled.

2.2   Analytical strategy

To map the Swiss media landscape on the basis of individual media consumption measures, we used MCA, which can be understood as a multivariate factor analysis

for categorical variables. MCA is usually visually represented in two plots: the graph of active modalities that determine the shape of the obtained map and the graph of supplementary modalities that serve to interpret the map. The spatial proximity between two modalities indicates in these graphs that these modalities are shared by a relatively large group of individuals. As people share more common patterns, they become more closely situated in the plan. Compared to other types of analysis, MCA has the advantage of accounting for complex (i. e., non-linear) relationships between variables and variable modalities. For this reason, MCA is a powerful analytical approach to analyse social categories and to investigate numerical variables once transformed into categories.

MCA allows us to model oppositions between variables in the logic of axes (or factors). The total information taken into account by each axis (inertia) is given by the variance rate explained (in the form of percentages) and by the eigenvalue of each axis. These indicators are thus used to determine the number of axes (factors) to retain for the analysis. For interpretation, we generally retain the number of axes that, when their respective rates are added, represent at least 80% of the cumulative variance rate. The first axis, which includes the variables with the highest inertia, represents the most important opposition; the second axis, the second most important, and so on. To interpret the difference between two modalities, it is customary to consider a difference of 0.5 as significant and a difference of 1 as very significant (Rossier 2018).

As already mentioned, in MCA, variables can be analysed in two ways. First, a set of variables, named active variables, is used to define the axes and the distance between variables and between individuals. Once the space is formed by the oppositions between modalities of the active variables, it is possible to project additional (or illustrative) variables. Illustrative variables do not play any role in the formation of the axes.

Each active variable and each modality of an active variable contribute to a percentage of the inertia of each axis. By convention, active variables are considered as contributing to an axis when this percentage exceeds the average inertia contribution (100% divided by the total number of variables). Similarly, we consider a modality as contributing to an axis when it exceeds the average contribution of modalities (100% divided by the total number of modalities). To interpret the difference between two modalities, it is customary to consider a difference of 0.5 as significant and a difference of 1 as very significant (Rossier 2018).

Our model had 7 active variables and 30 active modalities, for a total of 1970 respondents. Active variables are considered important when their contribution to an axis is larger than 14.3% (= 100/7). Similarly, the threshold of modalities is set at 3.3% (= 100/30). The details for our variables can be found in Appendix 1.

Faithful to a longitudinal perspective, MCA analyses the media use of the same individuals at two time points, namely, 2013 and 2016. We modelled the

active variables by focusing on the respondents' positions between 2013 and 2016 (as described in the data section). It is thus possible to observe whether and how changes in individual positions over time affect media consumption patterns. This dynamic use of MCA has – to date – rarely been applied in the social sciences.

The different media consumption types in 2013 and 2016 were inserted as active variables in the model to examine the structure and evolution of media consumption in Switzerland. Then, we superimpose, as illustrative variables, the positions of the individuals on several variables that could explain the mapping of the media space. Illustrative variables include the different age cohorts, the variation in political interest, the variation in political self-positioning, as well as the level of education in 2016, the occupational status in 2016, the living area, the 7 big regions, and gender.

3   Results

3.1   Description of media usage

Between 2013 and 2016, the use of social media has evolved, with alternatives to Facebook and Twitter becoming more popular. Table 1 reports the descriptive statistics for our sample. The percentage of respondents without any social media account was the highest (56% in 2013 and 53% in 2016), followed by respondents with either Facebook or Twitter accounts (39% in 2013 and 40% in 2016). Respondents relying on other social media platforms had slightly increased (5% in 2013 and 7% in 2016).

If we focus on the three main reasons for consulting the Internet, online news consumption was higher than chatting and listening to the radio or watching TV online, and the proportions had increased between the survey years (from 66% to 72% for news consumption, from 14% to 17% for chatting and from 21% to 25% for listening to the radio or watching TV online). Concerning paper media, the consumption of daily news had decreased (from 83% to 80%), as had the consumption of magazines (from 54% to 51%). In contrast, the consumption remained the same for free news (54%). Overall, there was almost no change in the proportions of media consumption between the two survey years.

Table 2 reports the correlation among the study variables. Online behaviours (reading news, chatting and listening to the radio or watching TV on the Internet) were all positively correlated with each other for both survey years. Social media use was negatively correlated with reading traditional offline media, such as newspapers and magazines. It was instead positively correlated with free news and online news consumption, as well as with chatting and listening to the radio or watching TV on the Internet. These patterns hold for both survey years. There is thus a correlation between using social media and reading only free or lower-quality sources.

Table 1   Descriptive statistics for the active variables

	Modalities	2013 count (%)		2016 count (%)		p
Social media (Socialmedia)	Facebook / Twitter	763	(39)	787	(40)	0.450
	Other	1112	(56)	1039	(53)	0.021*
	None	95	(5)	144	(7)	0.001**
Chatting (chatting)	no	1692	(86)	1629	(83)	0.006**
	yes	278	(14)	341	(17)	
Radio and TV (radio_TV)	no	1550	(79)	1471	(75)	0.003**
	yes	420	(21)	499	(25)	
Onlinenews (onlinenews)	no	677	(34)	547	(28)	<.000**
	yes	1293	(66)	1423	(72)	
Newspaper (newspaper)	no	327	(17)	407	(21)	0.001**
	yes	1643	(83)	1563	(79)	
Freenews (freenews)	no	907	(46)	911	(46)	0.923
	yes	1063	(54)	1059	(54)	
Magazines (magazines)	no	912	(46)	968	(49)	0.079[a]
	yes	1058	(54)	1002	(51)	

Note: significance levels defined as **$p < 0.01$, *$p < 0.05$, [a] $p < .08$; N = 1970.

We further note that individuals who do not use social media also tend to avoid any online activities, such as reading news online, chatting, listening to radio or watching TV online. These persons also prefer reading newspapers instead of free news. These findings already indicate that a divide is taking place not only with respect to the use *versus* non-use of social media but also with regard to quality *versus* low-quality information consumption. Furthermore, the users of other types of social media, such as Facebook and Twitter, seem to follow a different logic because they tend to be actively involved in online practices but have no significant pattern related to offline news consumption.

3.2   Description of individual variables

Concerning the supplementary variables, the majority of respondents (84 %) did not express any change in their political self-positioning between 2013 and 2016: 47 % remained at the centre of the political spectrum, 21 % on the left, and 16 % on the right. Approximately one-tenth of respondents expressed a shift towards the left (9 %) or the right (7 %) of the political spectrum. With respect to political interest, approximately one-tenth of respondents expressed either an increased (13 %) or decreased (10 %) interest in politics. A total of 9 % of participants did not express any change in their level of political interest and remained uninterested in politics represent 9%, while 46 % remained interested in politics.

With respect to socio-demographic supplementary variables, the distribution of cohorts does not overrepresent the youngest age groups. Regarding occupational

Table 2   Correlations table

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. onlinenews_13																	
2. chatting_13	0.14***																
3. radio_TV_13	0.18***	0.11***															
4. onlinenews_16	0.55***	0.11***	0.16***														
5. chatting_16	0.09***	0.30***	0.09***	0.10***													
6. radio_TV_16	0.21***	0.10***	0.37***	0.21***	0.13***												
7. newspaper_13	0.00	-0.11***	-0.02	0.03	-0.07**	-0.04*											
8. freenews_13	0.18***	0.07**	0.04	0.16***	0.07**	0.06**	-0.02										
9. magazines_13	0.05*	0.02	0.00	0.02	0.01	-0.02	0.15***	0.01									
10. newspaper_16	-0.03	-0.08***	-0.03	-0.02	-0.05*	-0.04	0.55***	-0.09***	0.13***								
11. freenews_16	0.12***	0.06*	0.06*	0.12***	0.06**	0.06*	-0.02	0.48***	0.05*	-0.02							
12. magazines_16	0.01	-0.03	0.02	0.03	-0.06*	0.02	0.16***	0.03	0.43***	0.18***	0.07**						
13. Socialmedia_2013_TW&FB	0.18***	0.25***	0.15***	0.17***	0.21***	0.16***	-0.17***	0.10***	-0.08***	-0.16***	0.07**	-0.10***					
14. Socialmedia_2013_None	-0.22***	-0.27***	-0.18***	-0.22***	-0.24***	-0.19***	0.16***	-0.12***	0.08***	0.17***	-0.08***	0.08***	-0.91***				
15. Socialmedia_2013_Other	0.12***	0.05*	0.08***	0.10***	0.09***	0.08***	0.01	0.05*	0.00	-0.03	0.02	0.04	-0.18***	-0.26***			
16. Socialmedia_2016_TW&FB	0.16***	0.23***	0.13***	0.15***	0.21***	0.11***	-0.14***	0.10***	-0.08***	-0.14***	0.07**	-0.09***	0.76***	-0.71***	-0.07**		
17. Socialmedia_2016_None	-0.21***	-0.25***	-0.19***	-0.19***	-0.25***	-0.17***	0.13***	-0.10***	0.09***	0.15***	-0.06**	0.09***	-0.70***	0.76***	-0.16***	-0.86***	
18. Socialmedia_2016_Other	0.10***	0.04	0.12***	0.08***	0.08***	0.12***	0.01	0.00	-0.01	-0.02	-0.02	0.00	-0.08***	-0.11***	0.44***	-0.23***	-0.30***

Note: Significance levels defined as *** p < 0.001, ** p <0.01, * p < 0.05; the endings _13 and _16 account for the survey year; the endings TW&FB account for Twitter and Facebook

Table 3   Descriptive statistics for the supplementary variables

	Modalities	Count	(%)
Political self-positioning (politor)	extreme-left stable (ext.-left)	55	(3)
	left stable (left)	361	(18)
	centre stable (centre)	923	(47)
	right stable (right)	282	(14)
	extreme-right stable (ext.-right)	43	(2)
	moderate change toward left (left+)	167	(8)
	moderate change toward right (right+)	139	(7)
Political interest (polint)	very low stable (very low)	52	(3)
	low stable (low)	111	(6)
	middle stable (middle)	441	(22)
	high stable (high)	656	(33)
	very high stable (very high)	243	(12)
	moderate decrease (less-)	198	(10)
	moderate increase (more+)	269	(14)
Age cohorts (cohort)	<1942	203	(10)
	1943–1952	360	(18)
	1953–1962	532	(27)
	1963–1972	453	(23)
	1973–1982	249	(13)
	1983–1999	173	(9)
Occupation (prof.status)	active	1316	(67)
	non active	654	(33)
Gender (SEX)	man	848	(43)
	woman	1122	(57)
Type of commune (COM2)	tourist and wealthy town	175	(9)
	centres	576	(29)
	urban towns	808	(41)
	Industrial and tertiary sector towns	130	(7)
	rural towns	281	(14)
Education (EDUCATr)	compulsory	62	(3)
	general	204	(10)
	tertiary	949	(48)
	vocational	755	(38)
Regions (REGION)	Central Switzerland	205	(10)
	East Switzerland	203	(10)
	Lake Geneva	346	(18)
	Middleland	498	(25)
	Northwest Switzerland	300	(15)
	Ticino	52	(3)
	Zurich	366	(19%)

status, 67 % of the sample were active and 33 % were inactive. With respect to education, most of the included individuals have a tertiary education diploma (48%), followed by vocational school (38 %), general (10 %), and compulsory school (3%). Furthermore, women are more represented than men (57 % versus 43 %). Finally, respondents living in urban municipalities (41 %) were more represented than respondents living in centres (29 %), in rural municipalities (14 %), in tourist and wealthy municipalities (9 %) and in industrial and tertiary sector municipalities (7 %). Concerning the regions, people in our sample came mostly from the Middleland (25 %) and from the region of the Lake of Geneva (18 %), while very few live in Ticino (3 %).

3.3 Illustrating media consumption patterns with individuals and contextual factors

By retaining more than 80 % of the inertia, two axes contributed to structuring the map of the media consumption patterns. The variance rate of the first axis was larger than that of the second axis (67 % vs. 17 %), which indicates a particularly strong opposition in space along the first axis compared to the second.

Social media in 2013 and 2016 made above-average contributions to the first axis. On the negative side of the plot (left side), we find the absence of social media use and the absence of reading online news in 2013 and 2016. In contrast (right of the axis in the graph), we find the use of Facebook and Twitter in 2013 and 2016, frequent chatting and frequent listening to the radio or watching TV online in 2013 and 2016. We also find the absence of consulting newspapers and online news. Thus, we argue that the first axis refers to a main cleavage between the reliance on social media associated with frequent online behaviours, such as chatting and listening to the radio or watching TV online, and the absence of use of social media and the absence of online news consumption.

The second axis was defined mainly by the different categories of newspaper and magazine consumption (in 2013 and 2016). We find in the negative coordinates (bottom of the axis in the graph) the frequent reading of magazines, as well as the frequent consumption of newspapers. In the positive coordinates (top of the axis in the graph), we find the absence of reading online news, offline newspapers and magazines. Thus, this axis refers to the main cleavage between the consultation of news and the absence of reading offline or online media content.

Some interesting trends can be highlighted by comparing the distances between media consumption measured in 2013 and 2016. First, whereas frequent consumption of offline and online news are located closer together on the map (lower-right quadrant), the absence of consumption of these media is situated further apart (upper-left quadrant). Second, the consumption of every media type included in the analysis has not changed much between 2013 and 2016 (as shown with the descriptive statistics in Table 1). Third, the reliance of social media such as Facebook and Twitter (situated in the upper-right quadrant) follows a different logic

Figure 1   Map of active and supplementary modalities
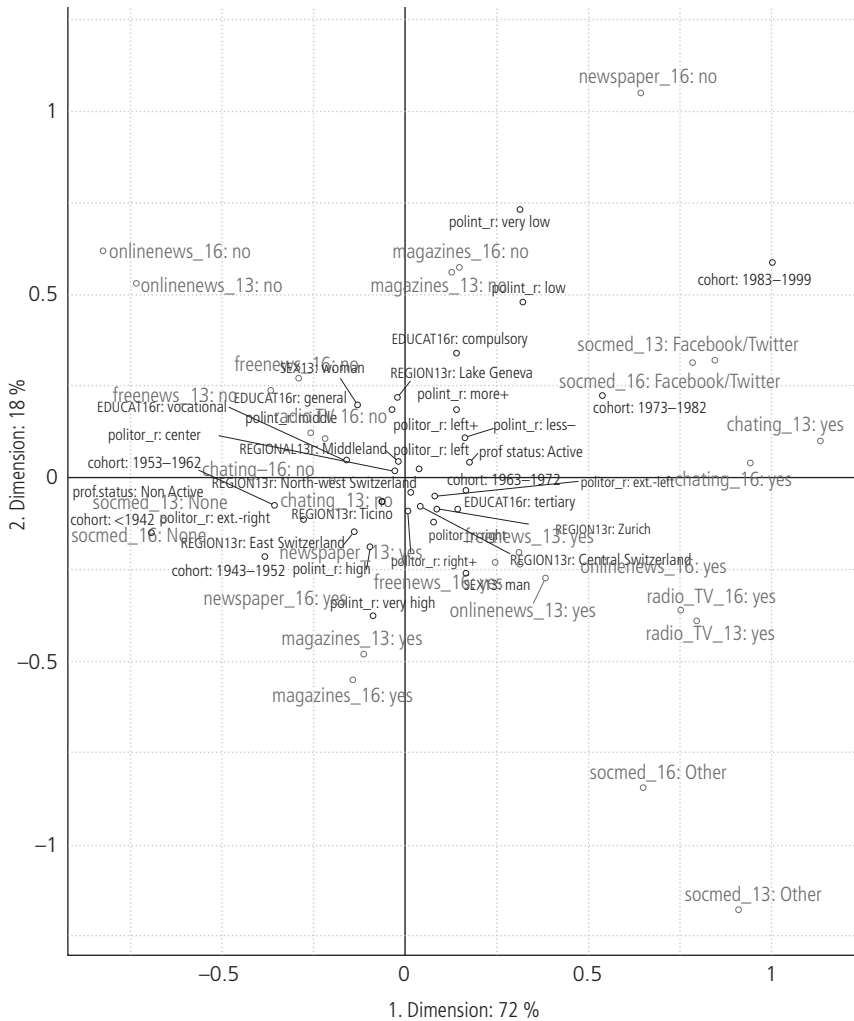
Note: The endings _13 and _16 account for the survey year; *active variables* are in grey and *supplementary variables* in black; N = 1970

than reliance on other social media such as LinkedIn, Xing, MySpace and Google+ (situated in the lower-right quadrant).

To better understand possible age differences in the use of media, MCA was also performed separately by three groups of cohorts (1983–1999 for the younger group, 1973–1982 and 1963–1972 for the intermediate group, and 1953–1962,

Figure 2a   Active modalities by age cohort
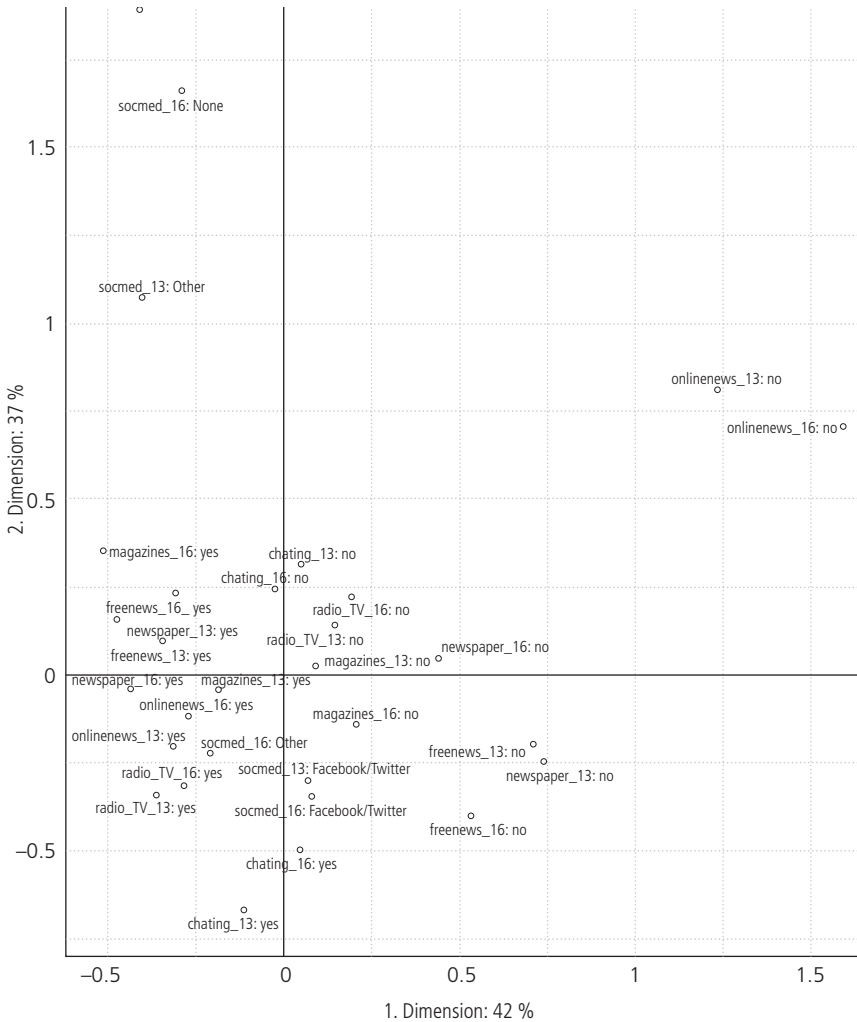
Note: Variable abbreviations are the same as in Figure 1; the number of individuals equals 173 in the young cohort, 702 in the intermediate cohort, and 1095 in the older cohort.

1943–1952 and before 1942 for the older group). Figure 2 shows that all of the variables had similar reciprocal relationships, and the axes of the overall model were replicated. The differences among the younger cohort were mostly prompted by not using social media and online news and by using the Internet for chatting or using social media other than Facebook and Twitter. However, these differences

Figure 2b   Active modalities by age cohort
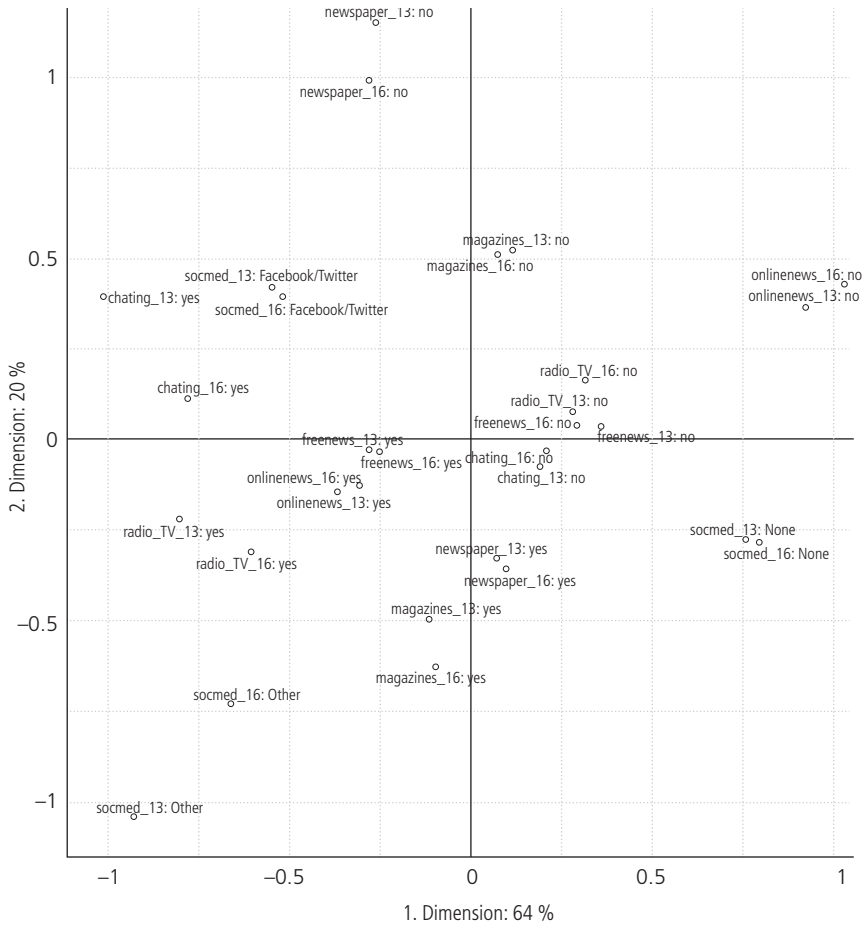
Note: Variable abbreviations are the same as in Figure 1; the number of individuals equals 173 in the young cohort, 702 in the intermediate cohort, and 1095 in the older cohort.

became less accentuated in 2016, showing a more homogenous consumption of the Internet and social media. A similar trend is observable for the other two cohorts. Among groups of cohorts, the use of offline media was also quite diverse, and more polarized consumption types were observed.

Figure 2c   Active modalities by age cohort
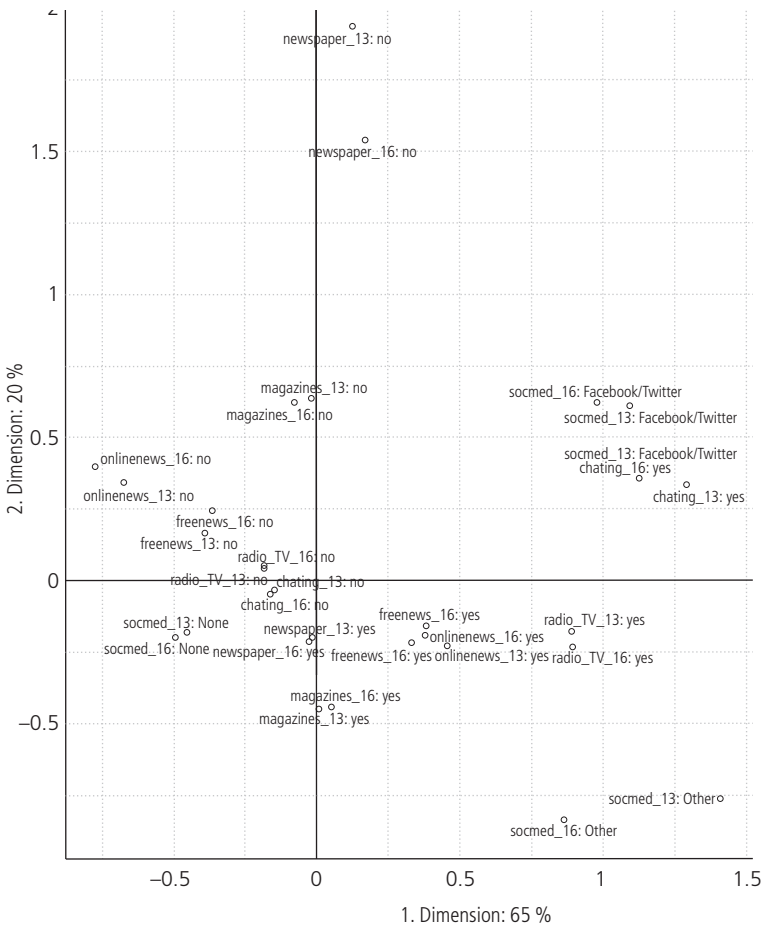
3.4   Explaining different consumption profiles

Figure 1 shows the supplementary variables projected on the media consumption landscape (labels in black on the figure). Overall, there was little difference between political self-positioning and types of municipalities. The age cohorts were structured

along the first axis, which summarizes the opposition between the reliance on or absence of reliance on social media. Younger respondents (see upper-right quadrant) were associated with reliance on social media, frequent chatting, and the absence of both online and offline news and magazine consultation, while older cohorts (see lower-left quadrant) were associated with the absence of social media usage, as well as the frequent consumption of daily news and magazines. With respect to the second axis, political interest and gender could explain the repartition of the active modalities. Respondents expressing no change in their level of political interest and who were highly interested in politics were situated in the upper-right quadrant. Gender also showed differences: women had positive values on the second axis, and men had negative values on the second axis.

Figure 1 also shows which of the supplementary categories are most important when interpreting the formation of the dimensions. The different age cohorts were structured mainly along the first dimension, whereas the changing level of political interest, as well as gender, were important variables when interpreting the second dimension.

To test the repartition of individuals, cluster analysis can be used to look for groups (or clusters) that bring together respondents sharing similar media consumption patterns. This procedure maximizes the homogeneity of clusters so that respondents in each cluster are most similar to one another and most of the differences are between clusters. Over several tested models, the best fit (i.e., best Duda-Hart, PseudoT2, and Beale indexes) was given by two clusters. The first cluster (named new media consumers) is characterized mainly by social media use, chatting, watching TV or listening to the radio online, and free news consumption, whereas the second cluster (news consumers) is defined mainly by information consumption practices through the use of traditional media outlets, such as offline newspapers and magazines, as well as online media outlets. In a final step, the two clusters were profiled using the supplementary variables not used to identify the clusters by means of a logistic regression (Table 4).

The results confirm that younger age cohorts were classified as new media consumers significantly more often than were older cohorts. Men were more likely to be associated with this group of consumers than women. Moreover, urban towns were more likely to be represented in the new media cluster than rural towns. People with high and middle levels of political interest are also more likely to be associated with news consumption than people with very low levels of political interest. Political orientation showed no significant results but tends to inform the polarization behaviour of those with rightist political inclinations, as we observed that people with extreme-right self-positioning tend to rely less on new media than left-leaning people. Finally, people living in East Switzerland are less likely to rely on new media than people living in the region of Zurich.

Table 4   Logistic regression on the new media consumers cluster
               (coded as 0) and the news consumers cluster (coded as 1)

		β (SE)	p
(Intercept)		−0.61 (0.67)	0.36
Political self-positioning (politor):: reference "left"	ext.–left	−0.02 (0.39)	0.96
	centre	0.01 (0.18)	0.94
	ext.–right	0.89 (0.54)	0.09
	left+	0.05 (0.28)	0.85
	right	−0.07 (0.23)	0.77
	right+	0.17 (0.31)	0.59
Political interest (polint):: reference "very low"	high	0.92 (0.45)	0.04*
	less-	0.18 (0.48)	0.71
	low	0.26 (0.51)	0.61
	middle	0.83 (0.45)	0.07 a
	more+	0.5 (0.47)	0.28
	very high	0.54 (0.48)	0.26
Age cohorts (cohort):: reference "<1942"	1943–1952	−1.13 (0.25)	<.01**
	1953–1962	−1.63 (0.29)	<.01**
	1963–1972	−2.46 (0.31)	<.01**
	1973–1982	−3.19 (0.35)	<.01**
	1983–1999	−5.77 (0.77)	<.01**
Gender (SEX):: reference "man"	woman	0.91 (0.14)	<.01**
Type of commune (COM2):: reference "urban towns"	tourist and wealthy town	0.07 (0.23)	0.76
	centres	−0.21 (0.17)	0.21
	industrial and tertiary sector towns	0.33 (0.27)	0.23
	rural towns	−0.37 (0.21)	0.08a
Education (EDUCATr):: reference "tertiary"	compulsory	−0.67 (0.41)	0.10
	general	0.37 (0.22)	0.09
	vocational	0.11 (0.15)	0.48
Regions (REGION):: reference "Zurich"	Central Switzerland	0.23 (0.27)	0.38
	East Switzerland	0.6 (0.26)	0.02*
	Lake Geneva	−0.12 (0.22)	0.59
	Middleland	0.18 (0.2)	0.36
	Northwest Switzerland	0.12 (0.22)	0.60
	Ticino	0.14 (0.44)	0.75
Occupation (prof.status):: reference "inactive"	active	−0.05 (0.2)	0.79

Note: Significance levels defined as **p < 0.01, * < 0.05, a p < 0.08; N = 1416.

4   Discussion and concluding remarks

The findings of the present study relied on an innovative way to exploit MCA by adding a temporal variation to the map. This use of MCA was first proposed by Mercklé (2017), Rossier (2018), and Rossier and Fillieule (2019), and some aspects of it still need to be deepened. However, it is a particularly promising technique and allowed us to highlight consumption patterns from a temporal perspective while seeking to explain them through individual and contextual factors. If, on the one hand, this approach has some limitations, such as the absence of clear-cut statistical tests, on the other hand, it allowed us to explore the multivariate and non-linear relationship between the study variables. Another limitation of this study was that it relied on a time window of only three years (2013 and 2016), which might be too narrow to observe radical changes in behaviour, consumption profiles and opinions. Our results showed that changes in both media usage and the covariate variables, particularly political interest and political positioning, have nevertheless occurred. Future studies relying on data from the SHP 2019 could test the hypothesis of opinion polarisation.

Our first research question asked whether it is possible to observe a digital shift in the analysis of media-use practices or, in other words, if it is possible to account for a digital-oriented versus a paper-oriented media consumption space. This distinction emerged clearly from the map of media consumption practices, showing a contrast between online and offline media consumption. However, the MCA found that more than one dimension explains the difference in consumption styles. This finding implies that the Swiss media space cannot be interpreted solely in a dichotomous offline-online view. Instead, it seems that social media, which offer the possibility for users to generate content and gain information, goes hand in hand with the consumption of other online news sources and offline media sources, mainly free news.

The relationship between using social media and reading only free or lower-quality sources might be particularly problematic in the context of direct democracy because information plays a vital role in guaranteeing informed opinion and votes. Indeed, a narrow consumption of news, whether online or offline, was associated with low political interest. Our second research question, which addressed what individual factors best explain the formation of this media space, shed some more light in this direction. Our results show that the increase in online media is most common among younger cohorts. The age cohorts were structured along the first axis, which summarized the opposition between the reliance or absence of reliance on social media: younger respondents more often relied on social media, reported frequent chatting, and reported the absence of both online and offline news and magazine consultation, while older respondents were characterized by an absence of social media usage, as well as frequent daily news and magazine consultation. Our

findings therefore show that younger cohorts use social media in a homogenous way, giving higher preference not only to interactive media such as social media and chat services but also to online and free news. With respect to the second axis, which summarizes the opposition between the consultation of and absence of reading offline or online news content, political interest, gender, and, to some extent, political orientation, it illustrates the repartition of media consumption patterns.

The cluster analysis also showed that media consumption is cumulative: People with the habit of seeking information use different types of media at the same time. In line with research on interactive media usage (Opgenhaffen and d'Haenens 2011; Tran 2015), this audience might therefore develop expertise in using media, maximizing the benefits of online support and possibly contrasting the negative side effects of social media. This explanation complements the generational divide hypothesis by emphasizing the skill divide hypothesis. Indeed, as Genner (2017) suggests, the ways we consume information may well transcend questions of age, and the growing online news ecosystem is likely to increase the divide between individuals with versus those without the needed skills to sort through the available news and information.

To conclude, we would like to stress that the change in media usage habits is not necessarily negative for democracy. It can indeed demonopolize the news industry, creating grassroots and alternative sources of information. For instance, the use of social media in collective action and mass protest, such as the wave of protest that impacted Chile in 2019, has allowed activists to draw attention to (alleged) human rights violations committed by the police that had been neglected by official news. However, to maximize these benefits, a new culture of media consumption should be created. Users/readers should be encouraged to use multiple media sources and be aware of the way automated algorithms of news selection work in order to contrast the hidden risks of new media. An informed use of new media could thus represent a resource for, instead of a risk to, direct democracy.

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Appendix

Table A1   Contribution of variables and modalities to the formation of MCA axes

	Modalities	Dimension 1	Dimension 2	Freqency
Chatting 2013 (chatting_13)	no	1.1	0	1692
	yes	6.5	0.1	278
	Total	7.6	0.1	1970
Chatting 2016 (chatting_16)	no	1.1	0	1629
	yes	5.5	0	341
	Total	6.6	0	1970
Dailynews 2013 (dailynews_13)	no	2.7	14.5	327
	yes	0.5	2.9	1643
	Total	3.2	17.4	1970
Dailynews 2016 (dailynews_16)	no	3	11.9	407
	yes	0.8	3.1	1563
	Total	3.8	15	1970

Continuation of table A1 on the next page.

Continuation of table A1.

	Modalities	Dimension 1	Dimension 2	Freqency
Freenews 2013 (freenews_13)	no	2.2	1.4	907
	yes	1.9	1.2	1063
	Total	4.1	2.6	1970
Freenews 2016 (freenews_16)	no	1.4	1.8	911
	yes	1.2	1.5	1059
	Total	2.6	3.3	1970
Magazine 2013 (magazine_13)	no	0.3	7.6	912
	yes	0.2	6.5	1058
	Total	0.5	14.1	1970
Magazine 2016 (magazine_16)	no	0.4	8.4	968
	yes	0.4	8.1	1002
	Total	0.8	16.5	1970
Onlinenews 2013 (onlinenews_13)	no	6.6	5	677
	yes	3.5	2.6	1293
	Total	10.1	7.6	1970
Onlinenews 2016 (onlinenews_16)	no	6.7	5.6	547
	yes	2.6	2.1	1423
	Total	9.3	7.7	1970
Radio and TV 2013 (radio_TV_13)	no	1.3	0.5	1550
	yes	4.8	1.7	420
	Total	6.1	2.2	1970
Radio and TV 2016 (radio_TV_16)	no	1.7	0.6	1471
	yes	5.1	1.7	499
	Total	6.8	2.3	1970
Social media 2013 (Socialmedia_2013)	Facebook/ Twitter	9.8	2	763
	None	8.7	0.4	1112
	Other	1.4	3.5	95
	Total	19.9	5.9	1970
Social media 2016 (Socialmedia_2016)	Facebook/ Twitter	8.8	2	787
	None	8.8	0.4	1039
	Other	1.1	2.7	144
	Total	18.7	5.1	1970

Note: Significance levels defined as **$p < 0.01$, * < 0.05, a $p < 0.08$; N = 1416.

Changing Attitudes Towards Gender Equality in Switzerland (2000–2017): Period, Cohort and Life-Course Effects

Christina Bornatici*, Jacques-Antoine Gauthier**, and Jean-Marie Le Goff**

Abstract: This paper investigates trends in Swiss women's and men's gender attitudes in the period 2000–2017 using the Swiss Household Panel data. Based on pooled OLS and fixed-effects models, we establish the following for women and men: (1) over this time period, attitudes towards gender roles become more egalitarian, while attitudes towards gender equality achievement remain stable; (2) the youngest cohort unexpectedly holds more traditional attitudes; and (3) individual attitudes change over the life course based on life events and the attitudes of one's partner.

Keywords: attitudes, gender equality, sexism, longitudinal analysis, Switzerland

Changement des attitudes envers l'égalité des genres en Suisse (2000–2017) : effets de période, de cohorte et du parcours de vie

Résumé : Cet article analyse l'évolution des attitudes des femmes et des hommes envers l'égalité des genres en Suisse entre 2000–2017. Nous constatons que pour les femmes et les hommes : (1) sur la période, les attitudes envers les rôles de genre deviennent plus égalitaires, tandis que les attitudes envers la réalisation de l'égalité des genres demeurent stables ; (2) la cohorte la plus jeune a, contrairement à nos attentes, des attitudes moins égalitaires ; et (3) les attitudes changent au cours de la vie selon les expériences et l'attitude du partenaire.

Mots-clés : attitudes, égalité des genres, sexisme, analyse longitudinale, Suisse

Veränderung der Einstellungen zur Gleichstellung der Geschlechter in der Schweiz (2000–2017): Perioden-, Kohorten- und Lebensverlaufseffekte

Zusammenfassung: Dieser Artikel analysiert die Trends von Einstellungen von Frauen und Männern zur Geschlechtergleichstellung zwischen 2000 und 2017 in der Schweiz anhand der Daten des Schweizer Haushalt-Panels. Basierend auf gepoolten OLS- und Fixed-Effect Modellen stellen wir für Frauen und Männern fest, dass (1) die Einstellungen zu Geschlechterrollen im Laufe der Zeit egalitärer werden, während die Einstellungen zur Erreichung der Geschlechtergleichstellung stabil bleiben; (2) die jüngste Kohorte entgegen der Erwartungen weniger egalitäre Einstellungen ausdrückt; (3) die Einstellungen sich im Lebensverlauf aufgrund von Lebensereignissen und Einstellung des Partners ändern.

Schlüsselwörter: Einstellungen, Geschlechtergleichstellung, Sexismus, Längsschnittanalyse, Schweiz

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1   Introduction[1]

Women and men's social roles have evolved in Western societies since the mid-20th century. Women entered the labour market and are now as numerous as men in achieving higher education, while men are increasingly involved in childcare and domestic tasks (Hook 2006). In parallel, normative values, particularly regarding gender roles, have developed towards more equality over the same period (Mason and Lu 1988; Scott et al. 1996). Supporters of the modernisation theory (e. g. Inglehart and Norris 2003) espoused a continuing cultural convergence towards egalitarianism and thus a progressive reduction of traditional attitudes supporting male primacy and holding gender-essentialist beliefs of women's and men's separate life domains and roles due to natural and innate differences. However, changes towards more egalitarian gender attitudes – and behaviours (England 2010) – seem to have stalled in the mid-1990s in Western countries (van Egmond et al. 2010; Cotter et al. 2011). Pepin and Cotter (2018) even assert that attitudes about the division of domestic tasks and family decisions between spouses became more traditional among young Americans. However, based on a cross-country analysis including 17 European countries, Knight and Brinton (2017) interpret this stall not as a resurgence of gender-essentialist views but rather as the rise of different types of egalitarianism, namely, from liberal egalitarianism (gender egalitarian work-family views) to familial egalitarianism (support for women's employment and traditional family values).

If most attention so far has been directed at examining the attitudinal change over historical time at the population level, an increasing amount of research has focused on changes in gender attitudes within individuals over the life course. For instance, studies using panel data show that life events and transitions can have important effects on gender attitudes. In particular, women's transition to employment and their employment level are positively related to women's egalitarian attitudes (Corrigall and Konrad 2007; Kroska and Elman 2009). Parenthood generally shifts women's and men's attitudes towards more traditional views (Baxter et al. 2014; Grinza et al. 2017). However, Kaufman et al. (2017) found a relatively weak effect of the transition to parenthood on young Swedes' gender attitudes, which is attributed to strong policies that support gender equality in this country. These diverging results suggest that the national context plays a role in the level and direction of attitudinal change. Previous results on national trends and individual changes in gender attitudes

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are drawn principally from American and European data. In this paper, we focus on the change in attitudes towards gender equality in the context of Switzerland.

Thus far, few studies in Switzerland have assessed attitudes towards gender role – and more broadly, attitudes towards gender equality[2] – and none have adopted a longitudinal perspective. Levy et al. (2002) report that in 1998, 33% of women and 41% of men believed that mothers of schoolchildren should not work, thus favouring a clear separation of gender roles. Recent studies focus on specific groups or on specific life-course transitions. These studies indicate that factors related to gender attitudes in Switzerland are similar to those observed in other countries. For example, working women and cohabitant mothers have more egalitarian attitudes towards gender roles than, respectively, non-working women and married mothers do (Ryser and Le Goff 2015; Kuhn and Ravazzini 2018). As in other liberal welfare states, after becoming parents, most couples hold egalitarian attitudes while having an unequal work-family organisation (Bühlmann et al. 2009; 2016). However, the overall picture of the changes in gender attitudes in Switzerland over time and over the life course remains incomplete.

Therefore, the aim of this study is to investigate the trends of attitudes towards gender equality and intervening factors in attitudinal changes in the Swiss context during the last 20 years. The attitudinal changes are evaluated both at the individual and population levels. The specific structural, institutional and cultural contexts in a given time and place are expected to influence both the formation of individual gender attitudes during the socialisation process (inter-cohort effects) and their variation over the life course (intra-cohort effects). Attitudes are then expected to change when the overall context is modified (period effects) or when individuals experience a transition to a new life stage (life-course effects).

This paper contributes to the literature on gender attitudes in three ways. First, it provides new evidence on the change in gender attitudes for women and men throughout their life course and historical time in Switzerland. Second, it assesses normative change by focusing on different dimensions of attitudes towards gender equality. Indeed, four types of attitudes (attitudes towards women's and mothers' employment, women's discrimination and measures promoting women) are captured in our analyses and are related to two dimensions: attitudes towards gender roles and attitudes towards gender equality achievement. Thus, we concentrate not only on gender role attitudes, as most of the literature does (Davis and Greenstein 2009). Third, using longitudinal data, we can account for both the variation of attitudes between and within individuals over time to distinguish selection from adaptation effects, allowing us to capture the dynamics of reciprocal influence (Lesthaeghe and Moors 2002).

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2   We use the term "attitudes towards gender equality" (or its shorter version, "gender attitudes") to represent the underlying concept of an individual's level of support for gender equality.

2   Attitudinal formation and change

2.1   Social change: Cohort and period effects

The cohort replacement theory argues that within a birth cohort, individuals' attitudes are shaped by the institutional, structural and cultural context in place during youth socialisation, resulting in intra-cohort similarities in values that tend to persist throughout one's life course and influence subsequent representations and attitudes (Alwin and McCammon 2003). With the replacement of older cohorts by younger cohorts in a population, attitudinal change progressively occurs at the population level (Brooks and Bolzendahl 2004). During the last several decades, the successive birth cohorts were educated and socialized in increasingly egalitarian contexts. Therefore, the members of the younger cohorts hold more egalitarian attitudes towards gender equality than those of the older ones (Berridge et al. 2009; Perales et al. 2019).

Previous studies also report the importance of intra-cohort effects in explaining change in social attitudes over time. At the macro level, these are period effects known to influence the views of the whole population (regardless of their birth year) through widespread exposure to new ideas and models (Bolzendahl and Myers 2004) and through diffusion mechanisms, i. e., the diffusion of ideas from innovative groups to other groups (Pampel 2011). Former beliefs are thus adapted to the new structural, institutional and cultural context. With the increasing involvement of women and mothers in paid work or the development of institutions, policies and norms favourable to egalitarian work-family arrangements, the period effect should be consistent with increasing egalitarian attitudes in the population, as the proponents of the modernisation theory would argue (Inglehart and Norris 2003). However, some researchers found that the recent period effect is related to a stall or even a reversal of attitudes due to the persistence of gender-essentialist conceptions of women's care-giving role or the reappearance of the male primacy (Cotter et al. 2011; Knight and Brinton 2017; Pepin and Cotter 2018).

2.2   Attitudinal change in a life-course perspective

At the micro level, intra-cohort change is explained through the social structural theory, which postulates that individual attitudes vary when the individual's location within the social structure changes (Brooks and Bolzendahl 2004; van Egmond et al. 2010; Baxter et al. 2014). As individuals experience new life events and move through life stages (e. g., education, employment, marriage, parenthood), they become embedded in different social contexts and have new status and new roles (Levy and Bühlmann 2016) that can either reinforce the preceding attitudes or change them. Three mechanisms help explain attitudinal changes: the interest mechanism, the exposure mechanism and the cognitive dissonance mechanism. Let us define them briefly.

First, according to the interest mechanism, in the context of public aware-ness on gender inequality issues, the individuals who benefit the most from gender equality are more likely to adopt egalitarian attitudes (Bolzendahl and Myers 2004). A robust finding is that young, more educated and employed women have more egalitarian attitudes. As they can easily project themselves in rewarding full-time occupational careers, for instance, these women have more personal interests in achieving gender equality and in experiencing less discrimination. After a change in individuals' socio-structural position (e. g., change in occupational position), their interest structure can change, leading to a shift in their attitudes (Kroska and Elman 2009). Indirect interests are also important. For example, men in couples have more egalitarian attitudes when their partner works (Bolzendahl and Myers 2004) because they can benefit from their wife's wages and career opportunities.

Second, based on the exposure mechanism, individuals' attitudes change after they are confronted with ideas or situations that challenge their views (Bolzendahl and Myers 2004). Changes in individuals' socio-structural positions, e. g., through education or personal experience (e. g., parenthood), expose individuals to different contexts, situations and norms that influence their awareness of gender inequality issues. The exposure mechanism acts as a "socialisation process of sorts that continues into adulthood" (Perales et al. 2019, 87). Exposure to the views of one's partner is particularly important. Indeed, in observing married couples, Kroska and Elman (2009) found a strong effect of one spouse's attitudes on the other.

Interest and exposure mechanisms can jointly influence attitudinal change. For instance, women entering the professional world might develop more egalitarian attitudes, as they are more exposed to inequality and have more interest in claiming equal treatment (e. g., wages, promotions) compared to when they were complet-ing their education. In contrast, women leaving their jobs to care for their children might develop more traditional attitudes in accordance with their new status and behaviour (new goals and interests) or because they have more contacts with people with traditional views and arrangements than in their earlier situation.

Third, the cognitive dissonance mechanism suggests that when former attitudes are inconsistent with new externally constrained behaviours, attitudes tend to change to decrease the cognitive dissonance (Festinger 1957). Indeed, the structural, insti-tutional and cultural contexts influence work-family arrangements, thus fostering or hampering certain behaviours (Pfau-Effinger 1998; Bühlmann et al. 2009). In more conservative contexts, institutions are relatively unsupportive of egalitarian work-family arrangements. In these cases, social pressures to act according to the prevailing gendered norms are stronger (Pedulla and Thébaud 2015). When gender equality is expected (e. g., between partners for paid work, housework and childcare), while norms and contextual constraints entail unequal behaviours, individuals' at-titudes might become more traditional to reduce the cognitive dissonance (Davis and Greenstein 2009).

This last mechanism has mainly been mobilized to investigate attitudinal changes after the birth of the first child (Baxter et al. 2014; Grinza et al. 2017), as the transition to parenthood is related to important modifications in couples' work-family arrangements. In fact, the lack of childcare facilities, the school schedules, the gendered norms in the workplace (e. g., the disregard of the father's role) and the normative gender culture (with, for instance, the "good mother" injunctions) restrict couples' options when they have children and condition their gendered roles (Ruppanner and Maume 2016). Moving from one family life stage to the next (e. g., having toddlers or schoolchildren) exposes individuals to different constraints that result in various degrees of cognitive dissonance.

3   The Swiss context for gender equality

Even though gender equality is granted at the institutional level – since 1981 in the Swiss constitution and since 1996 in a federal law prohibiting discrimination in the workplace – in practice, equality has not yet been reached in the private or public spheres. Switzerland is regarded in international comparison as a "late female mobilisation welfare state" (Siaroff 1994) – women's suffrage was only introduced in 1971 at the federal level – and as a liberal family policies regime that is characterised by low family expenditure (Korpi 2000; Fux 2002). This means that policies and institutions favouring work-family balance and egalitarian arrangements are lacking, were developed more recently or have limited effects. For example, in 2019, neither paternity nor parental leave was available in Switzerland, and comparatively short maternity leave was implemented in 2004 at the federal level. Additionally, the availability of childcare in the pre-school years and out-of-school facilities depends on the municipality, the smallest administrative jurisdiction of the country. Despite federal subsidies available since 2003 to increase childcare capacity, the supply remains too low (FSO 2017), and childcare facilities in Switzerland remain among the most expensive internationally (OECD 2017). Concerning gender equality policy, Lanfranconi and Valarino (2014) showed that from 1996 to 2011, the implementation of gender equality legislation shifted from state-oriented to economic-oriented discourses, leading to the primacy of economic outcomes over gender equality outcomes. The implementation of non-state, non-binding and inexpensive measures was thus favoured, resulting in limited progress in achieving gender equality (Lanfranconi and Valarino 2014; Fuchs 2019).

Since 1991, women's participation rate in the labour market has increased and is currently among the highest in Europe (FSO 2019). However, most women are employed part-time and in lower-paying jobs, while they account for only one-third of managers (FSO 2018). Despite the fact that the gender wage gap decreased during the last decade, women still earn, on average, 12% less than men (FSO 2019).

Research results show that work-family arrangements and, more generally, life courses remain markedly gendered in Switzerland (Levy et al. 2006), with the transition to parenthood being a strong gendering factor (Le Goff and Levy 2016). Indeed, young mothers partially or fully exit the labour market to care for their child, while fathers become the sole or main breadwinner. Consequently, the most common family model is the modified breadwinner (men working full-time, women part-time), while egalitarian models are still rare (FSO 2019). As the youngest child grows up, mothers increase their involvement in the labour market (FSO 2019). With respect to housework and childcare, in most households, the main responsibility falls on women (FSO 2019). More equality has been reached in education, while progress regarding women's representation in politics has stalled since 2000 at approximately 25% at the cantonal and federal levels (except for the National Council, FSO 2019).

There are some regional differences in cultural, institutional and behavioural settings. For instance, the French- and Italian-speaking areas have more female-friendly voting patterns (Bühler and Meier Kruker 2002). Additionally, the supply of day-cares for pre-schoolers and after-school programmes is highest in the French-speaking area and in urban cantons (Bieri et al. 2017). Women in the Italian-speaking area are more likely to stay home than in the German- and French-speaking areas (Kuhn and Ravazzini 2018).

When asked about their perception of gender equality in Switzerland, only approximately 1/4 of the working population believe that gender equality has been achieved in education, the family and politics, and approximately 1/10 think it has been achieved in the workplace and leadership positions (Fuchs et al. 2018). Thus, most respondents think that gender equality has not yet been achieved or has only partially been achieved. In each domain, men are more likely than women to report that gender equality has been achieved (Fuchs et al. 2018). Compared to the European population (European Commission 2017), the Swiss have a similar perception of the implementation of gender equality at work and in leadership but are more likely to think that equality has been achieved in politics.

4   Hypotheses

Based on our theoretical framework applied to the Swiss context, we first expect that, similarly to other countries, individuals in younger cohorts have more egalitarian attitudes towards gender equality and that this trend holds over time *(H1 – cohort hypothesis)*. As the overall Swiss structural and institutional contexts became more egalitarian during the observed period (e. g., increase in women's employment rate, implementation of maternity leave), we expect that the diffusion of egalitarian attitudes persisted in the population. We assume that in Switzerland, between 2000

and 2017, historical time is associated with more egalitarian attitudes *(H2 – period hypothesis)*.

To test the interest, exposure and cognitive dissonance mechanisms, we rely on, respectively, women's employment, partners' attitudes and family life stages. First, as in Switzerland, most women work part-time; thus, we expect that higher participation of women in the labour force is related to more interest in gender equality and thus more egalitarian attitudes *(H3a – interest hypothesis)*. Additionally, given the indirect interests of men in couples, we expect that women's higher participation in the labour force is related to men's more egalitarian attitudes *(H3b – indirect interest hypothesis)*. Second, as a result of exposure, we expect that the attitudes of both partners in couples evolve in the same direction *(H4 – exposure hypothesis)*. Third, in the Swiss context, childless individuals should experience the least cognitive dissonance regarding gender attitudes, as their behaviours are not or are only a little constrained, while (women's) behaviours in families with pre-schoolers could be constrained by the lack of (affordable) childcare. Individuals in this first family stage probably experience the strongest constraints and thus dissonance, which should result in a change towards more traditional attitudes. We thus expect that cognitive dissonance increases in early family life stages (with a peak in pre-school families) and decreases in subsequent family life stages (i. e., families with post-school and out-of-nest children). This implies a change towards more traditional attitudes in early family stages, while there should be no attitudinal change in subsequent stages (*H5a – cognitive dissonance hypothesis*). Moreover, the cognitive dissonance associated with family life stages should be stronger for women than for men, and thus women should develop more traditional attitudes at early family stages (*H5b – gendered cognitive dissonance hypothesis*).

5 Data and method

This study uses the Swiss Household Panel data (SHP 2018), collected annually since 1999. The data are gathered at the household and individual levels on a range of social, economic and attitudinal indicators, either in the yearly questionnaire or in rotative modules. The SHP data fit well with our research goals, as they are the only longitudinal data in Switzerland that include several indicators of gender attitudes over almost the last two decades, allowing us to observe variations over historical time and over individuals' life courses. Moreover, as all adult household members are interviewed, for couples living together, data on both partners' attitudes are available, making it possible to assess the reciprocal influence of partners' attitudes. We use all the waves of data including items on gender attitudes, which correspond to data collected from 2000-2011, in 2014 and in 2017.

To account for attitudinal change over time *within* individuals, we apply fixed-effects regressions. With this method all time-invariant characteristics, such as cultural, familial and individual backgrounds, are controlled for (Brüderl and Ludwig 2015). In this way, time-invariant unobserved heterogeneity is eliminated, but the estimation of invariant attributes (e. g., cohort) is not possible. To estimate the association between attitudes and time-invariant characteristics, we use pooled OLS regressions with standard errors corrected for clustering by respondent.[3] Moreover, pooled OLS regressions enable us to assess differences and change *between* individuals. The resulting models, later referred to as *within* and *between* models, are conducted on two different samples. A first set of analyses on the change in gender attitudes was conducted on adult respondents of working age (18–64 years old) who completed at least one individual questionnaire. In a second set of analyses, to test the mutual influence of the partners, we restrict our sample to individuals living as a heterosexual couple (married or not) at any time of the period of observation and who have no other adults cohabiting with them (except their children up to 30 years old). As the literature shows a clear sex difference in gender attitudes, separate analyses are conducted for women and men.

Attitudes towards gender equality are assessed with four items in the SHP that relate to two different dimensions of gender attitudes. The first and second items relate to *attitudes towards traditional gender roles* and measure the attitudes towards mothers' and women's employment, respectively: 1) "A pre-school child suffers, if his or her mother works for pay" and 2) "To have a job is the best guarantee for a woman as for a man to be independent". The third and fourth items relate to *attitudes towards gender equality achievement* and assess attitudes about women's discrimination and measures promoting women to reduce gender inequality, respectively: 3) "In Switzerland, women are penalized compared with men in certain areas" and 4) "Are you in favour of Switzerland taking more steps to ensure the promotion of women?".

While the first two items estimate the strength of essentialist beliefs about women's and men's separate spheres and the endorsement of traditionally gendered roles (i. e., "old-fashioned sexism" as labelled by Swim et al. 1995), the third and fourth items measure, respectively, the denial of continuing discrimination and the resentment over special favours for women (i. e., "modern sexism"). Swim et al. (1995) show that old-fashioned sexism is more overt but socially disapproved, while modern sexism is more subtle and thus may better predict sexist attitudes and behaviours. Individuals can both reject traditional gender roles and stereotypes and think that women have now reached equality and thus stand against special measures for women (Swim et al. 1995). Indeed, modern sexists "blame women instead of systematic disadvantage for [the continuing] gender inequality and contribute to the maintenance of the unequal gender status quo" (Becker and Sibley 2016, 319).

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3   This enables us to take into account the existing correlation in the successive respondent's observations.

Research mostly analysed attitudes towards gender roles and thus old-fashioned sexism (see e. g. Davis and Greenstein 2009 for a review of US studies). The inclusion of items assessing modern sexism is therefore important.

As each of the four items measures a specific aspect of gender attitudes, analysing them separately instead of in a joint scale enables us to uncover differences in the evolution of attitudes for each aspect. For each item, respondents indicate their level of agreement on an eleven-point Likert scale. The first item was reverse coded so that a high value indicates egalitarian attitudes towards gender equality on every item, while a low value indicates traditional attitudes.

Among the independent variables, to disentangle the period (H2) and the cohort (H1) effects, we use the *interview year* to measure the influence of the overall context and create four *generational cohorts*: the Silent generation (individuals born before 1949), Baby-boomers (1950-1964), Generation X (1965–1979) and Millennials (1980 and subsequent birth years). To test the interest hypotheses (H3a-b), we account for *women's involvement in paid work*: not working, short part-time (1 to 20 hours), long part-time (21 to 37 hours) and full-time (38 hours and more). Then, we consider the *partner's attitudes* to assess the exposure hypothesis (H4). To evaluate the cognitive dissonance hypotheses (H5a-b), we allocate every individual (or couple) to one of the six *family life stages*: 1) pre-child individuals (childless individuals younger than 45; for couples, the woman's age is taken into account), 2) pre-school family (youngest child 0 to 4 years old), 3) school family (5 to 17 years); 4) post-school family (18 to 30 years); 5) post-children family (out-of-nest children); and 6) individuals without children (childless individuals older than 45).

Finally, based on the literature on gender attitudes, we control for the *educational level* and *marital status* in each model. Indeed, previous studies have consistently shown that being less educated or married is linked to more traditional attitudes (e. g. Ryser and Le Goff 2015; Edlund and Öun 2016). Given the Swiss context, we also control for the linguistic region (German, French or Italian) and the residential context (urban vs. rural), as differences have been found in terms of cultural (voting patterns) and institutional (childcare infrastructure) settings. The results of education and linguistic region, on the one hand, and marital status and residential context, on the other hand, are used to further assess the exposure and cognitive dissonance mechanisms, respectively.

6   Results

6.1   Attitudinal change over time: Cohort and period effects

Figures 1 and 2 show the descriptive trends by sex and cohort, respectively, for each of the four attitudinal items across all years in the study. If men score lower than women for all items, the overall evolution of attitudes is similar for both sexes

Figure 1   Trends in gender attitudes in Switzerland by sex
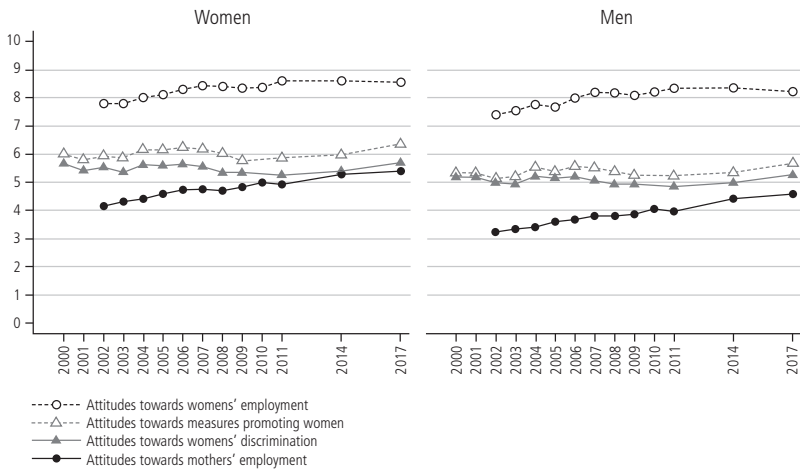
Note: Means by year and sex for the adult population (between 77 469 and 84 080 observations); higher values indicate more egalitarian attitudes. Source: SHP 2000–2017.

(Figure 1). Indeed, there is a slight increase towards more egalitarian attitudes for both women and men concerning gender roles. However, when attitudes towards gender equality achievement are considered, we observe a stagnation of attitudes for both sexes. The period effect thus differs for old-fashioned and modern sexism items, the first ones evolving as predicted contrary to the second ones (H2). If old-fashioned sexism items exhibit parallel upward trends, then interestingly, attitudes towards women's employment are the most egalitarian (overall means over the period: women = 8.3; men = 8.0), while women and men are the most traditional concerning mothers' employment (women = 4.8; men = 3.8). Respondents' attitudes towards women's discrimination (women = 5.5; men = 5.1) and measures promoting women (women = 6.0; men = 5.4) are slightly less traditional.

With respect to the decomposition of these trends over cohorts (Figure 2), quite surprisingly, the *Millennials* have more traditional gender attitudes than do the other cohorts, except for attitudes towards working mothers. This is particularly true for both modern sexism items. Making abstractions of the *Millennial* cohort, attitudes towards working mothers is the only item for which cohorts act as predicted by our hypothesis H1 (i. e., younger cohorts hold progressively more egalitarian attitudes than do older cohorts). However, for this item, the gap between the cohorts diminishes over the period, as there is a wider difference between individuals from the *Silent generation* and *Baby-boomers*, than between *Baby-boomers* and *Generation*

Figure 2   Decomposition of each gender-attitude item by cohort
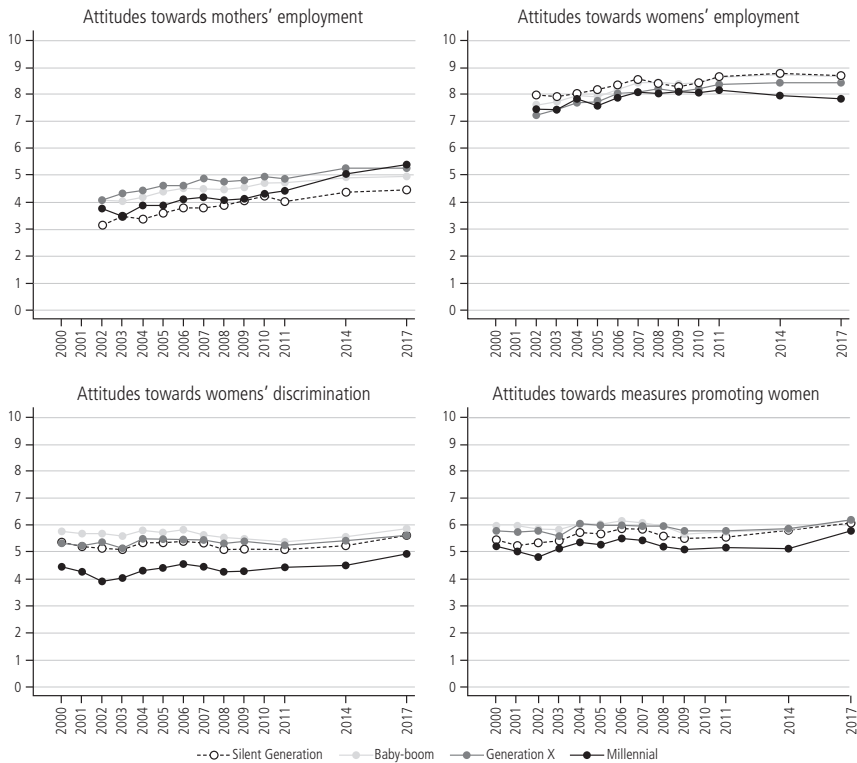
Note: Means by year and cohort for the adult population (between 77 469 and 84 080 observations); higher values indicate more egalitarian attitudes. Source: SHP 2000–2017.

Xers. This convergence of attitudes, at least among the three older cohorts, is also observable in the other items.

While these results describe the general changing pattern for each attitudinal item at the aggregate level, they hide the within-person variations. For instance, cohort differences could be related to the fact that individuals are in different stages of their life course, the youngest cohort not yet having experienced the same events and transitions (e. g., marriage, parenthood, divorce). To disentangle the period and cohort effects from other factors, we now turn to the results of multivariate analyses. Tables 1 and 2 display, respectively, the results from the pooled OLS (*between* models) and fixed-effects (*within* models) regressions for working-age individuals. A positive coefficient indicates that the variable is associated with more egalitarian attitudes, whereas a negative coefficient indicates that it is associated with more traditional attitudes.

Table 1   Pooled OLS regression coefficients on gender attitudes to account for variations between individuals (18–64 years old)

	Old-fashioned sexism				Modern sexism			
	Attitudes towards mothers' employment		Attitudes towards women's employment		Attitudes towards women's discrimination		Attitudes towards measures promoting women	
	Women	Men	Women	Men	Women	Men	Women	Men
Year	0.065***	0.079***	0.050***	0.057***	0.001	-0.001	0.002	0.011*
Cohort (ref: Millennial)								
Silent generation	0.285	-0.051	0.659***	0.478***	0.851***	0.564***	0.305	0.205
Baby-boom	0.342*	0.172	0.458***	0.380***	0.979***	0.911***	0.588***	0.529***
Generation X	0.183	0.100	0.263***	0.092	0.617***	0.586***	0.428***	0.325**
Employment (ref: Full-time)								
Not working	-0.578***	0.252**	-0.387***	-0.226***	-0.191**	0.190**	-0.082	0.125
Low part-time	-0.006	0.541***	-0.177**	-0.154	-0.155**	0.214*	-0.125	0.237
High part-time	0.479***	0.968***	0.029	-0.090	-0.031	0.189*	0.095	0.213*
Family life stage (ref: Pre-child individual)								
Pre-school family	0.665***	0.534***	-0.203*	-0.460***	0.213**	-0.057	0.195	0.007
School family	0.055	0.053	-0.101	-0.197**	-0.041	-0.223**	0.078	-0.134
Post-school family	-0.035	-0.041	0.048	-0.091	-0.108	-0.258**	0.029	-0.059
Family post-children	0.047	-0.171	0.092	0.040	0.109	-0.047	0.228	0.075
Individual without children	-0.240	-0.208	0.216**	0.255**	0.095	-0.074	0.333**	0.042
Education (ref: Intermediate)								
Low	-0.663***	-0.072	-0.134*	0.061	-0.305***	-0.240**	-0.217**	0.278**
High	1.298***	1.099***	0.322***	0.004	0.266***	0.164**	0.484***	-0.101

Continuation of table 1 on the next page.

Continuation of table 1.

	Old-fashioned sexism				Modern sexism			
	Attitudes towards mothers' employment		Attitudes towards women's employment		Attitudes towards women's discrimination		Attitudes towards measures promoting women	
	Women	Men	Women	Men	Women	Men	Women	Men
Marital status (ref: Married)								
Single	0.435***	0.481***	0.163*	0.038	0.048	-0.458***	0.207*	-0.430***
Cohabitant	0.034	0.505***	0.387***	0.206**	0.120	-0.090	0.275**	-0.054
Divorced, widow	-0.092	0.068	0.195**	0.112	0.269***	-0.363**	0.352***	-0.290
Linguistic region (ref: German)								
French	-0.770***	-0.382***	0.343***	0.489***	0.677***	0.777***	1.755***	1.570***
Italian	-1.026***	-1.005***	0.634***	0.732***	0.456***	0.410**	1.627***	1.521***
Residential area (ref: Rural)								
Urban	0.539***	0.537***	0.088	0.103	0.130**	0.012	0.292***	0.219**
Constant	3.851***	2.182***	7.246***	7.062***	4.614***	4.452***	4.777***	4.554***
R^2	0.105	0.081	0.044	0.035	0.049	0.058	0.095	0.068
Individuals	7370	6456	7394	6490	7997	7006	7965	6989
Observations	32293	26831	32717	27147	35516	29302	35286	29144

Note: *p < 0.05, **p < 0.01, ***p < 0.001. Scales range from 0 to 10, higher values indicate more egalitarian attitudes. Source: SHP 2000–2017.

Table 2   Fixed-effects regression coefficients on gender attitudes to account for variations within individuals (18–64 years old)

| | Old-fashioned sexism | | | | Modern sexism | | | |
| | Attitudes towards mothers' employment | | Attitudes towards women's employment | | Attitudes towards women's discrimination | | Attitudes towards measures promoting women | |
	Women	Men	Women	Men	Women	Men	Women	Men
Year	0.072***	0.076***	0.077***	0.078***	−0.009**	−0.005	0.000	0.011**
Employment (ref: Full-time)								
Not working	−0.062	0.149*	−0.185***	0.002	−0.023	−0.012	−0.014	0.027
Low part-time	0.041	0.158	−0.066	−0.007	0.015	−0.054	−0.106	−0.017
High part-time	0.115*	0.158*	0.053	0.044	−0.008	0.033	0.002	0.014
Family life stage (ref: Pre-child individual)								
Pre-school family	0.223**	0.304***	−0.170*	−0.236**	0.184**	0.058	0.189*	0.080
School family	−0.164*	0.107	−0.122	−0.058	−0.010	−0.130	0.034	−0.023
Post-school family	−0.203*	0.077	−0.061	0.082	0.031	−0.136*	0.107	0.015
Family post-children	−0.168	0.052	−0.179*	0.006	0.038	0.001	0.204*	0.039
Individual without children	−0.309**	0.056	−0.061	0.109	−0.041	−0.118	0.057	−0.059
Education (ref: Intermediate)								
Low	−0.089	−0.001	−0.078	0.061	−0.383***	−0.391***	−0.289**	−0.209*
High	0.359***	0.324**	0.047	0.085	0.177*	−0.112	0.222**	−0.009
Marital status (ref: Married)								
Single	−0.216*	−0.167	0.369***	0.033	−0.049	−0.319***	0.062	−0.126
Cohabitant	−0.064	−0.098	0.188**	0.106	0.018	−0.164*	0.098	−0.081
Divorced, widow	0.018	0.039	0.117	−0.006	−0.015	−0.207*	0.006	−0.268*

Continuation of table 2 on the next page.

Continuation of table 2.

	Old-fashioned sexism				Modern sexism			
	Attitudes towards mothers' employment		Attitudes towards women's employment		Attitudes towards women's discrimination		Attitudes towards measures promoting women	
	Women	Men	Women	Men	Women	Men	Women	Men
Linguistic region (ref: German)								
French	0.163	–0.137	0.797***	–0.080	0.456*	0.010	0.440	–0.040
Italian	–0.544	0.143	0.362	0.083	0.011	0.229	–0.199	–0.200
Residential area (ref: Rural)								
Urban	0.073	0.161	0.067	–0.016	0.078	0.040	0.065	–0.044
Constant	4.282***	2.907***	7.260***	7.125***	5.493***	5.375***	5.897***	5.376***
R^2	0.021	0.023	0.029	0.028	0.003	0.003	0.002	0.001
Individuals	7370	6456	7394	6490	7997	7006	7965	6989
Observations	32293	26831	32717	27147	35516	29302	35286	29144

Note: * < 0.05, **p < 0.01, ***p < 0.001. Scales range from 0 to 10, higher values indicate more egalitarian attitudes. Source: SHP 2000–2017.

First, concerning the period effect, the multivariate results confirm the descriptive ones. Between and within models show that over the observed period, women and men became more egalitarian with respect to old-fashioned sexism items. For example, in examining the change in attitudes of different women over the years (between models), we observe that women are increasingly in favour of working mothers by 0.065 points on the 11-point Likert scale (see the first column of Table 1). In observing women who changed their attitudes over the years (within models), we find that their attitudes evolved towards more egalitarian views by 0.072 points (see first column of Table 2). Regarding modern sexism items, in between models most coefficients are not statistically significant, and in within models the significant coefficients have marginal effects and are indicative of different directions. Overall, we conclude that the period has no effect on attitudinal change measured with modern sexism items. Our period hypothesis (H2) is thus partly confirmed: in the recent Swiss context, historical time is associated with more egalitarian attitudes towards gender roles, but a stall in attitudes towards gender equality achievement is observed.

Second, the multivariate results for the cohort effect also confirm the descriptive ones: *Millennials* have more traditional attitudes than do older cohorts,[4] except for men's attitudes towards mothers' employment, for which the results are not significant. *Baby-boomers*, socialised during the peak of the second wave feminist movement, are the most likely to think that women are still discriminated against and to favour measures promoting women. The cohort replacement hypothesis (H1) is thus rejected: younger cohorts do not have more egalitarian gender attitudes.

6.2 Micro-level determinants of gender attitudes and factors in attitudinal change

In this section, we focus on the association between attitudes and the life course to uncover determinants of gender attitudes and factors of change within an individual. We rely first on results from Tables 1 and 2. Second, to test the mutual influence of the partners in a couple, pooled OLS and fixed-effects regressions are conducted for women and men in couple relationships (Tables 3 and 4). This also allows us to consider couples' specificities.

According to the interest hypotheses, we expect that women's higher participation in the labour force is related to more egalitarian attitudes for women (H3a) and, in couples, for men (H3b). Compared to women working full-time, those who are not occupationally active are the most traditional. Women engaged in low part-time work are also more traditional than those working full-time but to a lesser extent (between models; Table 1). There is no significant difference between women working full-time and those in a high part-time job, except for attitudes towards working mothers, in which women working part-time are more egalitarian than those working full-time. While this is generally consistent with hypothesis H3a, this result could not only be due to an interest mechanism but also to a selection effect:

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4   This result holds when we assess 10-year birth cohorts.

Table 3 Pooled OLS regression coefficients on gender attitudes to account for variations between individuals (18–64 years old) in couple relationships

	Old-fashioned sexism				Modern sexism			
	Attitudes towards mothers' employment		Attitudes towards women's employment		Attitudes towards women's discrimination		Attitudes towards measures promoting women	
	Women	Men	Women	Men	Women	Men	Women	Men
Woman's employment (ref: Low part-time)								
Not working	-0.619***	-0.318***	-0.276***	-0.161*	0.077	0.010	0.179	-0.021
High part-time	0.461***	0.567***	0.197**	0.255***	0.191**	0.177*	0.254**	0.296**
Full-time	0.285*	0.449***	0.265**	0.226*	0.252**	0.061	0.108	0.175
Partner's attitudes	0.271***	0.266***	0.104***	0.108***	0.117***	0.132***	0.169***	0.185***
Family life stage (ref: Pre-child couple)								
Pre-school family	0.647***	0.675***	-0.093	-0.269*	0.386***	0.125	0.225	0.181
School family	0.072	0.097	-0.050	-0.083	0.239*	0.038	0.147	0.121
Post-school family	-0.242	-0.190	0.126	-0.087	0.125	0.077	0.106	0.190
Family post-children	0.004	-0.289	0.100	0.108	0.307	0.209	0.296	0.253
Couple without children	-0.214	-0.097	0.254	0.222	0.233	0.294	0.352	0.345
Constant	2.952***	0.911***	6.011***	5.928***	4.107***	3.896***	4.034***	3.561***
R^2	0.189	0.171	0.065	0.063	0.048	0.042	0.119	0.094
Individuals	3717	3717	3740	3740	4067	4067	4052	4052
Observations	14722	14721	15074	15073	16467	16466	16263	16262

Note: $*p < 0.05$, $**p < 0.01$, $***p < 0.001$. Controlled for year, cohort, education, marital status, linguistic region and residential area. Scales range from 0 to 10, higher values indicate more egalitarian attitudes. Source: SHP 2000–2017.

Table 4 Fixed-effects regression coefficients on gender attitudes to account for variations within individuals (18–64 years old) in couple relationships

	Old-fashioned sexism				Modern sexism			
	Attitudes towards mothers' employment		Attitudes towards women's employment		Attitudes towards women's discrimination		Attitudes towards measures promoting women	
	Women	Men	Women	Men	Women	Men	Women	Men
Woman's employment (ref: Low part-time)								
Not working	−0.099	−0.202**	−0.238***	−0.157*	−0.004	0.066	0.031	−0.007
High part-time	0.062	−0.032	0.136*	0.038	−0.051	0.082	0.074	−0.046
Full-time	−0.159	−0.178	0.123	0.061	−0.017	−0.032	0.012	−0.064
Partner's attitudes	0.048***	0.047***	0.029**	0.031**	0.016	0.016	0.043***	0.044***
Family life stage (ref: Pre-child couple)								
Pre-school family	0.354**	0.348**	−0.219*	−0.051	0.291**	0.258*	0.347**	−0.133
School family	−0.038	0.184	−0.262*	−0.034	0.239*	0.092	0.226	−0.321*
Post-school family	−0.140	0.299	−0.156	0.007	0.316*	−0.014	0.353*	−0.505***
Family post-children	−0.026	0.250	−0.227	−0.142	0.330*	0.045	0.372*	−0.569**
Couple without children	−0.305	0.354*	−0.119	0.087	0.181	−0.112	0.147	−0.485**
Constant	4.152***	2.994***	6.934***	6.739***	5.403***	5.440***	5.433***	5.914***
R^2	0.021	0.025	0.040	0.035	0.004	0.003	0.004	0.004
Individuals	3717	3717	3740	3740	4067	4067	4052	4052
Observations	14722	14722	15074	15074	16467	16467	16263	16263

Note: *p < 0.05, **p < 0.01, ***p < 0.001. Controlled for year, education, marital status, linguistic region and residential area. Scales range from 0 to 10, higher values indicate more egalitarian attitudes. Source: SHP 2000–2017.

women who are more egalitarian work more. Within models reveal that exiting the labour force is related to a change towards more traditional attitudes about women's employment (–0.185, Table 2; alternatively, women starting to work become more egalitarian). We then find further support for the interest hypothesis (H3a). Our results provide an additional finding concerning the interest mechanism and men's employment. We find that men working part-time are more egalitarian than those working full-time (between models). Starting to work part-time or exiting the labour market is also related to men's more egalitarian attitudes towards working mothers (within models). This further supports the interest mechanism: when they start to work part-time, men change their interest structure, leading to a change in gender attitudes.

The indirect interest hypothesis (H3b) also finds support in our data (Tables 3 and 4): in couples, women's more intensive involvement in the labour market is related to men holding more egalitarian attitudes (between models). Additionally, when a woman exits the labour market, her partner develops more traditional attitudes with respect to gender roles (within models).

In couples, we also find that partners' attitudes are significantly and positively associated in both between and within models. This means that individuals with similar attitudes tend to get together and stay together (between models) and that a change in women's attitudes is associated with a change in the same direction in men's attitudes and vice versa (within models). The couple exposure hypothesis (H4) is hence confirmed.

Our last hypotheses (H5a-b) predict higher traditionalism in early family life stages, especially for women, because of higher constraints and cognitive dissonance. To analyse the relationship between change in attitudes and change in family life stages, we concentrate on results from within models and from individuals in couples, as this group is more homogeneous (Table 4). To assess the effect of moving from one family stage to another, we also run the models each time with another stage chosen as the reference category (not shown). For women, a transition from being in a pre-child couple to being in a pre-school family is associated with more traditional attitudes on women's employment, but contrary to our expectations, women also develop more egalitarian attitudes towards working mothers and modern sexism items. Moving to the school family stage, women become more traditional with respect to working mothers. Transitions in subsequent family stages are not associated with further attitudinal changes. For men, a change from being in a pre-child couple to being in a pre-school family is related to greater support for working mothers and recognition of women's discrimination. Moving to the school family stage, men become more traditional with respect to modern sexism items. As for women, men's transitions in subsequent family stages are not significantly related to further attitudinal change. As predicted, attitudinal change is only related to the transition in the early family life stages. However, attitudes become more egalitarian

in pre-school families and then more traditional in school families. We thus find mixed support for hypothesis 5a, as we do for hypothesis 5b. Indeed, while women develop more traditional attitudes towards gender roles in early family life stages, they also develop more egalitarian attitudes towards modern sexism items (the opposite is true for men).

Considering the control variables, as shown in previous research, for women and men, a higher level of education is generally related to more egalitarian attitudes (between and within models), which supports the exposure and interest mechanisms. Similarly, single, cohabiting and divorced individuals have more egalitarian attitudes than do married individuals (between models), except regarding modern sexism items, for which married men have more egalitarian attitudes than do singles and divorced men. For women, a change in marital status from single to married is related to more egalitarian[5] attitudes towards working mothers, whereas it is related to more traditional attitudes towards women's employment. These results offer mixed support for the cognitive dissonance mechanism. Finally, in the Swiss context, we could expect that individuals living in the French-speaking and urban areas would be more egalitarian. Concerning the linguistic regions, this is true for modern sexism items. However, the Italian-speaking area is associated with most egalitarian attitudes towards women's employment, while the German-speaking area has the most egalitarian views on working mothers (between models). Moving from the German-speaking to the French-speaking areas is, however, related to more egalitarian attitudes for women (within models). The linguistic region provides support for the exposure mechanism. Turning to the residential context, while women and men living in urban areas are more likely to be egalitarian (between models), moving to (or leaving) urban areas is not related to a change in gender attitudes (within models). This last control variable provides no further support for the cognitive dissonance mechanism.

7   Discussion and conclusion

In this paper, we first examined the trends in gender attitudes in the Swiss resident population between 2000 and 2017, drawing on cohort and period effects. Second, we investigated the changes in women's and men's gender attitudes, relying on interest, exposure and cognitive dissonance mechanisms. Three main findings emerge from our work.

First, there is a diverging period effect according to the two dimensions of gender attitudes examined, i. e., attitudes towards gender roles (reflecting old-fashioned

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5   As we are interested in the transition from being single to being married (and not the opposite, as stated in Table 2), we analyse the opposite sign of the coefficient. In this example, –0.216 should thus be understood as +0.216.

sexism) and attitudes towards gender equality achievement (reflecting modern sexism). Women and men are increasingly supportive of women's and mothers' employment, while attitudes about women's discrimination and measures promoting women to reduce gender inequality remain rather stable over the observed period. These differing trends confirm the idea of the multidimensionality of gender attitudes, as shown by Pepin and Cotter (2018) in the US context. Moreover, these differing trends could reflect the structural and institutional contexts in Switzerland. Indeed, women were increasingly involved in the labour market, leading to more acceptance of women's and mothers' employment, while simultaneously, the discourse on gender equality policy has changed since 2000, resulting in limited measures and progress in achieving gender equality (Lanfranconi and Valarino 2014).

Additionally, the observation of attitudinal trends and mean levels of each item reveals, on the one hand, that men have more traditional attitudes than women but that trends in women's and men's attitudes are similar. On the other hand, during the observed period, women and men and all cohorts strongly endorse women's employment, whereas the other items receive moderate support. Thus, women's employment is advocated as long as there is no (pre-school) child in the household. This underlines the persistence of a "gendered master status" characterised by the priority assignation of women to the family in Swiss society (Krüger and Levy 2001) and outlines the dominant "cultural leitbild" in this country (Lück et al. 2017). The general gender culture in Switzerland since 2000 could thus be described as "familial egalitarianist" (Knight and Brinton 2017) or "egalitarian essentialist" (Cotter et al. 2011), which are cultural frames that endorse gender equality while acknowledging innate differences, particularly with respect to the role of mothers. However, egalitarian essentialism cannot explain the rising support for working mothers. In addition to structural factors, one explanation could be economic: with increased costs of living, a supplemental salary could not only be an asset in families but also a need. Thus, by personal interest, as well as through exposure mechanisms, people could increasingly accept working mothers.

Our second major finding is that *Millennials*, despite being socialised in a more egalitarian context, hold more traditional or sexist attitudes than their predecessors do, mainly on modern sexism items. Indeed, younger individuals are less supportive of measures to promote women and believe that women are decreasingly penalised. This may be explained by the fact that the visible improvements made in numerous dimensions of social life regarding gender equality tend to hide the enduring process of gender differentiation and hierarchisation. *Millennials* might therefore deny old-fashioned sexism, which is more visible and socially less desirable, but they remain somewhat blind to new forms of sexism. In this truncated perspective, gender inequality may no longer be considered a major concern. This could result in the disinterest of *Millennials* regarding gender equality issues and a lack of protests (Ellemers and Barreto 2009), leading to the maintenance of gender

inequalities (Becker and Sibley 2016). Moreover, drawing on egalitarian essentialism, *Millennials* may believe that the remaining inequalities in public and private spheres are normal consequences of women's primary caretaker role and are thus not due to any form of disadvantage (Ellemers and Barreto 2009). Especially since the gender equality policy implemented during their adulthood consisted principally of non-state and non-binding measures (Fuchs 2019).

Overall, we observe both a cohort and a period effect, the former being a stronger determinant of gender attitudes than the latter, which corroborates previous findings (Brooks and Bolzendahl 2004). That said, our results also show a convergence of attitudes among the three older cohorts, which indicates the strength of the diffusion and exposure mechanisms of the period effect. Moreover, according to Cotter et al. (2011), the period better reflects trends in the gender attitudes and culture of a population. Finally, similar to previous research on attitudinal trends (Pepin and Cotter 2018), our results suggest that despite a long-standing trend of increasing support towards gender equality in Switzerland, there are signs indicating a slowdown, if not a reversal, of this trend among the youngest generation surveyed. At this stage, it is difficult to assess whether this finding is an age, period or cohort effect. There is therefore a need to follow the younger cohort members as they age and experience new life transitions to assess the extent to which their attitudes towards gender equality are actually weakening.

Third, our results underscore the importance of one's own experiences in changing gender attitudes and indicate a substantial role of interest and exposure mechanisms, while the cognitive dissonance mechanism does not have the expected influence. Indeed, women's and men's attitudes become more egalitarian in the pre-school family stage and more traditional in the school family stage, which indicates that the cognitive dissonance mechanism is not effective immediately but rather only after some years of exposure to constraints. This is contrary to findings on the transition to parenthood (Baxter et al. 2014; Grinza et al. 2017). Instead of cognitive mechanisms, the exposure and interest mechanisms could be at play here. Focusing on the change in attitudes around the transition to parenthood in the Swiss context would provide more accurate insights on the cognitive dissonance mechanism than the observations we made regarding the family life stages.

Consistent with the interest and exposure mechanisms, not only women's but also men's employment levels are related to their own attitudes towards gender equality, while a change in their involvement in the labour market is mainly related to an adaptation of their gender role attitudes. If the relation between women's employment and their attitudes was known (Bolzendahl and Myers 2004; Corrigall and Konrad 2007), our results shed new light on this relation for men. Furthermore, within couples, men's attitudes are related to their female partners' employment status. Additionally, individual attitudes reflect a process of exposure and mutual influence between partners. These two results corroborate previous findings (Kroska

and Elman 2009). In future analyses, more detailed attention should be given to couples' functioning with respect to their attitudes. Indeed, while we found that both partners' attitudes evolve in the same direction, further research should assess whether partners' attitudes also converge over time.

Our analyses present some limitations due to the data at hand. While studies in other countries have compared trends in attitudinal changes before and after the mid-1990s, it was not possible to do this for Switzerland. Additionally, attitudes towards gender roles were only assessed through the items reflecting support for women's and mothers' employment. However, accounting for attitudes concerning men's and fathers' involvement in housework and childcare or, more generally, concerning the division of tasks within the couple would have rightly completed our results. Similarly, attitudes about measures to reduce gender inequality targeting men (e. g. men's involvement in childcare) could produce interesting comparison with those targeting women. Moreover, the inclusion of a statement on the negative reactions to complaints about equality would allow us to measure attitudinal changes in the third and last component of contemporary forms of sexism (Becker and Sibley 2016).

To conclude, consistent with previous research in other conservative gender regimes (e. g. Baxter et al. 2014), our results show that in the Swiss context, gender attitudes are not stable over the life course. They are likely to change with specific life transitions and adapt to the associated (gendered) types of social integration. Our results suggest that this occurs mainly through interest and exposure mechanisms. Finally, concerning the attitudinal change at the population level in Switzerland, while the period effect is related to an increase in egalitarian attitudes towards gender roles (and a stall of attitudes towards the achievement of gender equality), cohort replacement would suggest a reversal of gender attitudes in the future. If time will tell how gender attitudes change in Switzerland, some measures could be taken to prevent the reversal of gender attitudes. Broad communication regarding the state of gender inequality in Switzerland and the process of doing gender in family, school, workplace and, more generally, the public sphere, as well as the implementation of national and binding policies to promote gender equality in the private and public spheres, are important in exposing women and men to persisting gender inequality issues and changing their interest structure.

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Tanja Bogusz, **Experimentalismus und Soziologie. Von der Krisen- zur Erfahrungswissenschaft.** Frankfurt/New York: Campus Verlag, 2018. 474 S.

Weg von der Krisenwissenschaft hin zu einer veritablen Erfahrungswissenschaft soll sich die Soziologie laut Tanja Bogusz (2018) bewegen. Nur so könne sie im Zeitalter von Klimawandel, Biodiversitätsverlust, Globalisierung und Digitalisierung überhaupt von gesellschaftlicher Relevanz bleiben. Doch ist die Soziologie bereit, ihre Rolle als Krisenwissenschaft aufzugeben? Insbesondere vor dem Hintergrund und hochaktuellen Anlass der Corona-Krise? Gerade jetzt (!), lautet die Antwort nach der Lektüre von Bogusz' Monographie *«Experimentalismus und Soziologie. Von der Krisen- zur Erfahrungswissenschaft»*, die sie 2017 als Habilitationsschrift an der Friedrich-Schiller Universität Jena vorgelegt hat. Derzeit lehrt und forscht Tanja Bogusz als Gastprofessorin an der Universität Kassel, wo sie seit 2016 das Fachgebiet «Soziologie sozialer Disparitäten» leitet.

«Soziologischer Experimentalismus» ist, gemäss Bogusz, die Brücke von der Krisen- zur Erfahrungswissenschaft. Inspiriert von John Deweys Sozialphilosophie und insbesondere seinen Beiträgen zur Erkenntnistheorie hebt Bogusz die Bedeutung des Experiments hervor, das Dewey, als «[…] erfahrungsbasierte und operationale Umwandlung von Nichtwissen zu Wissen […]» (S. 16) definiert. Demzufolge ist Erkenntnis direkt mit praktischem, verinnerlichtem Wissen verbunden, das durch Erfahrungen erkennbar wird (S. 48, 60); «[…]Erfahrungen, die aus Krisenmomenten hervorgehen.» (S. 13). Bogusz betont, dass der Erfahrungsbegriff des Experimentalismus zugleich Beobachtungskategorie als auch ein konstitutiver Teil der Generierung soziologischer Erkenntnis ist und so in die Erkenntnistheorie, die Sozialtheorie und die Gesellschaftstheorie hineinwirkt (S. 420).

Hierin sieht sie den Gegensatz zur Soziologie als Krisenwissenschaft, der der essenzielle Erfahrungsbegriff fehle, so die These. Die klassische Soziologie bleibt dem kantischen Ideal verpflichtet und beschränke sich auf die Beobachterposition und die Untersuchung von Akteurserfahrungen, ohne jedoch selbst Erfahrung als Forschungsmethode zu nutzen. Theorie und Empirie bzw. kognitive und praktische Erkenntnis wurden klar getrennt und Erkenntnis wurde stets auf kognitive Leistung zurückgeführt, was dazu führt, dass der Erfahrungsbegriff sowohl theoretisch als auch methodologisch leer bleibt (S. 17–18, 29–31). Die Soziologie wird so immer überholt und liefert gesellschaftlich nur geringe praktische Beiträge, argumentiert sie überzeugend für eine Soziologie als Erfahrungswissenschaft (S. 419). Die Basis für ihre These, Deweys Experimentalismus als Soziologie zu betrachten, bildet eine kategoriale Grundlegung, die Bogusz im ersten Kapitel vornimmt. Anhand dieser ordnet sie Erfahrung der Erkenntnistheorie,

Table 1 Kategoriale Grundlegungen

Gebiet	Kategorie	Prinzip	Modi operandi
Erkenntnistheorie	Erfahrung	Reflexivität	Situieren, korrelieren, materialisieren
Sozialtheorie	Prüfung	Revisionsoffenheit	Präparieren, testen, modellieren
Gesellschaftstheorie	Kooperation	Strukturationsfähigkeit	Kritisieren, partizipieren, kollaborieren

(Bogusz, 2018, S. 57)

Prüfung der Sozialtheorie und Kooperation der Gesellschaftstheorie zu (Tabelle 1).

In drei Testdurchläufen entlang der Kategorien Erfahrung (Kapitel 2), Prüfung (Kapitel 3) und Kooperation (Kapitel 4) unterzieht Bogusz Deweys Experimentalismus einer Soziologisierung und testet sein Potenzial, das sie als gleichrangig neben den Klassikern der Soziologie einschätzt. Wie Tabelle 1 zeigt, ist Reflexivität die Grundlage für den Erfahrungsbegriff. Als Prinzip der Prüfung wird die Revisionsoffenheit genannt, wobei immer wieder der prozessuale, zirkuläre und pluralistische Charakter der Analysen betont wird (S. 290). Kooperation ist aus Sicht Deweys die zentrale Möglichkeit, mit Erfahrungsdifferenzen umzugehen und die Arbeit der Strukturation muss aus gesellschaftstheoretischer Sicht konstant geleistet werden, denn kollektive Problembearbeitung ist die «zentrale Praxis gesellschaftlicher Organisation» (S. 103).

Auch aktuelle Studien der STS beschäftigen sich mit der Frage nach der Beziehung von Öffentlichkeit, Engagement und Partizipation. In der von Sergio Sismondo (2010) als "engaged program" bezeichneten Strömung wird der Beitrag von Wissenschaft, Technologie und nichtmenschlichen Entitäten in Bezug auf die Herstellung von Öffentlichkeiten systematisch untersucht und es werden gesellschaftstheoretische Konzepte herausgearbeitet, die für die Entwicklung einer experimentalistischen Gesellschaftstheorie von höchster Relevanz sind (S. 317). Ebenso verweist Dewey auf den performativen Einfluss von Technik und Industrie auf die Öffentlichkeit (S. 358). Für Bogusz (S. 370) ist es zentral, dass Gesellschaftstheorien auf einem "doing

theory" basieren, um forschungspraktische Relevanz zu erzeugen. Sie plädiert für einen verstärkten Dialog zwischen Theorie und Empirie analog zum Experimentalismus (S. 371).

Das Buch in einer äusserst strukturierten und systematischen Weise geschrieben, liest sich als dreiteiliger Testdurchlauf und greift auf beeindruckende Weise verschiedene bekannte soziologische Programme auf. In Bezug auf die Kategorie der Erfahrung wird der soziologische Experimentalismus anhand von Verweisen auf die Chicago School (2.3.1), Bourdieus Studien in Algerien (2.3.2) und Knorr-Cetinas Laborstudien (2.3.3) diskutiert. Um die *modi operandi* der Prüfung zu testen, geht Bogusz auf Luhmanns Wissenschaftstheorie (3.3.1), die Akteur-Netzwerk-Theorie (3.3.2) und die pragmatische Soziologie der Kritik (3.3.3) ein. Für den dritten Testdurchlauf der Kooperation bezieht sie sich auf Descolas kosmopolitische Naturanthropologie (4.3.1), Forschung zu kritischen Öffentlichkeiten aus Perspektive der Science and Technology Studies wie zum Beispiel jene von Noortje Marres (4.3.2) und die Biodiversitätsforschung (4.3.3).

Doch welche Konsequenzen hat eine experimentalistische Soziologie, die sich an Prinzipien der Reflexivität, Revisionsoffenheit und Strukturationsfähigkeit orientiert für die soziologische Forschung? Um der praxistheoretischen Kontinuitätsthese des Experimentalismus gerecht zu werden, muss die experimentalistische Soziologie als Sozialfigur und Untersuchungsstrategie wirksam werden. Dies betreffen auch den Wissenserwerb und die Wissensproduktion der Soziologen selbst (S. 187). Deweys Ziel war es nie, Wahrheiten zu proklamieren, sondern er wollte stets «Werkzeuge zur Wahrheitsfindung entwi-

ckeln» (S. 43). Die Prämisse der ständigen Transformation führt zur Entwicklung von ungewissen Situationen, die im Rahmen der Erfahrung, Prüfung und Kooperation zu funktionalen Schliessungen gelangen können. Diese situativen Klärungen tragen in einem Moment zur Unbestimmtheitsreduktion in Wissenschaft und Gesellschaft bei, unterliegen aber im zirkulären Prozess ständiger Fortentwicklung und Überprüfung (S. 80, 88–89). Soziologen fordert Bogusz auf, ihre jeweiligen Theorien und Methodologien auf die Probe zu stellen, zu testen und die zu bearbeitenden Ungewissheiten so weit wie möglich auszudehnen. Durch Kooperation soll die experimentalistische Soziologie interdisziplinär und transdisziplinär problemlösend mit Prüfungssituationen umgehen und ihre relationalen und strukturellen Wechselwirkungen untersuchen (S. 116).

Ein soziologischer Experimentalismus im Sinne Deweys fordert zur Erfahrungswissenschaft auf, die neugierig ist, Mut zeigt und sich auf diese Unsicherheiten einlässt (S. 438). Die aktuelle Corona-Krise bietet sich als Testlauf an. Sozialpsychologe Harald Welzer bezeichnet die Corona-Krise und die aktuelle Diskussion um das Entwickeln und Nutzen einer «Anti-Corona-App» als «gigantisches soziales Experiment, das zeigt, wie flexibel Verhaltensnormen und Akzeptanzbereitschaften unter Bedingungen des Ausnahmezustands sind» (2020) in einem Kommentar in der *TAZ*. Ähnliches bemerkt der Soziologe Heinz Bude in *Die Zeit* (Wefing, 2020) und empfiehlt, «[…] man müsse […] aus der ‹Anweisungsstruktur› des Staates ‹übergehen in Teilhabe›». Oder in Bogusz' metaphorischen Worten: «Es wird höchste Zeit, den selbstgewählten soziologischen Aussichtsturm zu verlassen und in den Strom des Geschehens einzutauchen» (S. 33).

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Nicola Cianferoni : Travailler dans la grande distribution, la journée de travail va-t-elle redevenir une question sociale ? Zürich, Seismo, 2019, 216 p.

Le monde du travail contemporain subit de profonds changements qui affectent les rapports de travail et les conditions d'emploi. La baisse de rentabilité des entreprises qui relève de transformations structurelles de l'économie a des implications sur la vie des travailleur·euse·s. À cet égard, la question du temps de travail est cruciale puisqu'elle est un enjeu politique et économique majeur. Dans son ouvrage, Nicola Cianferoni propose d'analyser « les nouvelles normes temporelles du travail » (p. 32) qui se déploient dans la grande distribution en Suisse. Trois phénomènes sont au cœur de l'analyse afin de saisir les restructurations à l'œuvre dans ce secteur : l'« intensification du travail », qui est notamment générée par la polyvalence liée à la diminution progressive des effectifs et qui contraint les travailleur·euse·s à une plus grande productivité ; la « disponibilité temporelle » qui se traduit par une adaptabilité toujours plus poussée des horaires aux « exigences de la production » (p. 29) et qui découle des horaires irréguliers, des temps partiels contraints, de la flexibilisation des horaires de travail, des heures d'ouverture des magasins, de la fonction spécifique occupée

au sein de l'entreprise, etc. ; la déqualification qui est historiquement liée à l'automatisation et qui permet le remplacement de personnel qualifié par du personnel non qualifié.

Partant de la théorie marxienne de la valeur, l'auteur propose de penser ensemble ces trois processus tout en les articulant à l'exploitation de la force de travail. Pour ce faire il mobilise deux mécanismes essentiels mais distincts qui agissent sur le taux de profit capitaliste : la plus-value absolue qui consiste à rallonger et intensifier la journée de travail et la plus-value relative caractérisée par la diminution de la valeur de la force de travail et une hausse des gains de productivité. Les trois phénomènes et leur lien avec la plus-value ne sont pas nouveaux et l'auteur ne manque pas de souligner qu'ils remontent au XIX$^{\text{ème}}$ siècle (p. 28–30). Mais l'idée-force du raisonnement consiste à montrer qu'ils se manifestent de manière inédite depuis les années 1990. Tandis que la période fordiste était marquée par un compromis entre travail et capital, ces trois processus et les efforts considérables qu'ils impliquaient pour les travailleur·euse·s étant alors compensés par une réduction des heures de travail, une hausse des salaires ou une diminution du prix des marchandises, Nicola Cianferoni montre qu'ils « ne sont désormais plus [compensés] par une réduction de la durée du travail » (p. 188).

La composition organique du capital de la grande distribution, c'est-à-dire le rapport entre les moyens de production (le capital constant) et la force de travail vivante (le capital variable), a ceci de particulier qu'elle est marquée par une forte proportion de capital variable : 80 % des frais d'exploitation sont dédiés à la masse salariale (p. 50). Dans un contexte de stagnation du marché, une des parades mise en œuvre par les directions afin de contrer la baisse de rentabilité consiste à diminuer les effectifs des salarié·e·s et à intensifier leur travail afin d'augmenter la part de valeur que les travailleurs·euse·s transmettent aux marchandises, sans diminuer les heures travaillées ni augmenter les salaires. L'extension et l'intensification du temps de travail, qui vont de pair avec une modification substantielle du droit du travail, caractérisent ainsi ce que le chercheur propose de nommer la « norme temporelle néolibérale » (p. 187). Mais il ne suffit pas de constater cette stratégie mise en place par les directions pour rendre compte des subtils changements qu'elle génère et des ressources organisationnelles mobilisées. Comment cette parade est-elle concrètement mise en place, comment la gestion du temps de travail a-t-elle évolué et quelles sont les implications de ces transformations dans la structuration des rapports de travail au sein de la grande distribution ? Ces questions mènent l'auteur à porter un regard critique et à poser un diagnostic précis sur son objet d'étude.

Pour rendre compte des évolutions du temps de travail déterminées par la perpétuelle quête de profit capitaliste, le chercheur a effectué 78 entretiens avec des dirigeants, des cadres et des travailleur·euse·s ainsi que des chef·fe·s d'équipe de deux entreprises de la grande distribution. Il a adopté une méthode qualitative élaborée par Amartya Sen[1] qui consiste à mettre en perspective les discours et les récits de vie afin de « dégager la pluralité des points de vue exprimés sur un objet précis » (p. 33). L'auteur prend soin de mettre en relation les différents récits récoltés – la perception subjective des individus – avec la position des acteurs dans la structure sociale en fonction de leur sexe et de leur classe. Cette méthode fait apparaître les points de tensions des acteurs concernant les transformations des conditions de travail.

La richesse du matériau empirique est mise en valeur par une analyse rigoureuse et convaincante. À ce titre, l'approche de la consubstantialité des rapports sociaux, qui « propose d'articuler les rapports sociaux de nature différente – de classe, de sexe, etc. – dans une logique systémique » (p. 25), permet de restituer avec finesse et nuance une réalité sociale complexe. L'intensification, la disponibilité temporelle et la déqualification se

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1   Sen, Amartya. 1993. Positional Objectivity. *Philosophy & Public Affairs,* 22(2), 126–145.

manifestent de manière différenciée pour les individus en fonction de leur insertion dans les rapports sociaux, c'est-à-dire par rapport à la division sociale et sexuée du travail.

Les éléments historiques que l'auteur mobilise – notamment l'émergence et le déclin du compromis fordiste – ne relèvent pas d'une simple mise en contexte de son objet d'étude mais ouvre un questionnement sur les transformations structurelles qui ont cours dans le monde du travail. Nous reconnaissons là une méthode originale puisque l'articulation de l'approche qualitative décrite plus haut avec une approche d'inspiration marxiste permet de penser les tendances lourdes qui restructurent la grande distribution et leurs implications tant sur les rapports de travail que le vécu des travailleur.euse.s. Enfin, l'auteur atteste d'une connaissance théorique solide de la critique de l'économie politique de Marx en basant son argumentation sur les catégories de plus-value absolue et relative et sur la journée de travail qui sont synthétisées dans la partie introductive de l'ouvrage.

L'auteur mobilise notamment la notion de fétichisme de la marchandise afin d'exprimer le fait que les deux parties de la journée de travail se confondent dans le mode de production capitaliste (le « temps nécessaire » à la reproduction de la force de travail et le « temps extra » à l'origine de la constitution de la plus-value). La définition qu'il propose mériterait toutefois d'être explicitée : elle consiste, me semble-t-il, à diagnostiquer un décalage entre la réalité (ici la distinction entre les deux parties de la journée de travail) et la représentation qu'on s'en fait (la confusion de ces deux parties dans *la* journée de travail). Cette notion se définit traditionnellement comme une « idéologie spontanée » et mystificatrice, une « tromperie » qui occulte le fait, effectivement réel, que l'origine de la survaleur se situe exclusivement dans le « temps extra », c'est-à-dire dans le travail non payé des travailleurs. Sur ce point, l'auteur démontre que les transformations dans l'organisation du travail, qui sont intrinsèquement liées aux profits de la classe capitaliste, ne

débouchent pas sur un conflit de classe mais sur des conflits entre les salariés. C'est ce que Hélène Stevens nomme la « psychologisation des rapports sociaux »[2] que l'auteur cite en conclusion (p. 193). Or, la question qui figure en sous-titre de l'ouvrage (« la journée de travail va-t-elle redevenir une question sociale ? ») aurait gagné à être mieux articulée à ce phénomène de fausse conscience[3].

Au final, cet ouvrage apporte un éclairage original sur le monde du travail. Il présente une tentative réussie de *marxisme appliqué* au sens où les catégories de critique de l'économie politique mobilisées permettent l'analyse de la journée de travail dans ses diverses composantes. Les expériences des acteurs sont mises en lumière de manière à rendre compte de la diversité du vécu d'une part et les différences entre les rapports sociaux de classes et de sexes d'autre part. L'équilibre entre les composantes subjectives et objectives du vécu des acteurs donne lieu à un tableau nuancé sur lequel se dessinent avec précision les contours d'une réalité sociale complexe. C'est également un *marxisme impliqué* qui est à l'œuvre ici. Comme le fait remarquer Jean-Michel Bonvin dans la préface de l'ouvrage, l'auteur adopte une posture épistémologique de « chercheur militant » sans pour autant que l'une de ces deux caractéristiques ne prennent le dessus sur l'autre. Le résultat consiste en un éclairage nouveau qui vient enrichir la littérature scientifique portant sur les transformations du travail. C'est également un ouvrage dont le contenu, explicitement situé, n'est pas destiné qu'aux académiques mais aussi au personnel de la grande distribution et à toute personne qui cherche à s'informer sur

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2   Stevens, Hélène. 2008. Quand le psychologique prend le pas sur le social pour comprendre et conduire des changements professionnels. *Sociologies pratiques,* 17(2), 1–11.

3   Pour des développements sur ces aspects, voir la thèse de l'auteur : Cianferoni, Nicola. 2018. La redéfinition des normes temporelles de travail : Tensions, négociations et compromis autour du temps de travail dans la grande distribution suisse. Thèse de doctorat, Science de la Société, Université de Genève, CH

les évolutions du rapport capital-travail et sur
ses implications dans la vie quotidienne des
travailleur·euse·s de la grande distribution.

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